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ABSTRACT

This Masters Thesis from the Ohio State University examines the trend in coverage of environmental problems in two newspapers from 1962-1977. Data were gathered by analyzing the content of the "Chicago Tribune" and "New York Times." Environmental stories from 24 selected issues per year were coded and analyzed using the Spearman Rank Correlation Coefficients and Chi-square tests. Number of stories per category and column inches per category were recorded for the following environmental story categories: (1) Energy Resources; (2) Water Quality; (3) Air Quality; (4) Environmental Additives; (5) Population Explosion; (6) Natural Amenities; (7) General; and (8) Miscellaneous. The study concludes: (1) an upward trend in environmental newspaper stories occurred with a peak in 1970; (2) the National Environmental Policy Act (NEPA) of 1969 had no substantial effect on environmental coverage; and (3) NEPA had no apparent effect on any separate catagories of environmental news. The study also includes a brief discussion fo the implications of these findings. (MR)

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AN ANALYSIS OF THE RELATIONSHIP BETWEEN THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 AND COVERAGE OF ENVIRONMENTAL ISSUES IN TWO NEWSPAPERS FROM 1962-1977

A Thesis

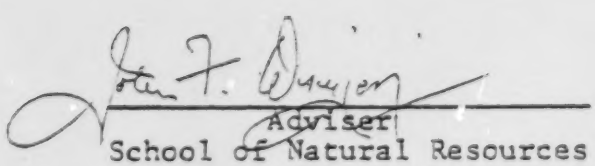
Presented in Partial Fulfillment of the Requirements
for the Degree Master of Science

by

Daniel Joseph O'Meara

The Ohio State University
1978

Approved by



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CHAPTER I

INTRODUCTION

Need for Study

"If it's environmental, it's good" might explain the attitude of some people who were caught up in the fervor of the environmental movement of the late 1960's and early 1970's. This movement had roots to at least 1962 with the publication of Silent Spring by Rachel Carson.

Emotional appeals to save the environment could more easily stop a project in 1970 than in previous years; there was a phase of over-reaction to real and imagined environmental hazards (O'Riordan and Hey, 1976). The mass media recognized the importance of environmental concerns and increased the amount of coverage of the environment around 1970 (Rubin and Sachs, 1973).

The Santa Barbara oil spill of 1969, Earth Day 1970, Paul Ehrlich's Population Bomb in 1968, the National Environmental Policy Act of 1969 (NEPA), smog in the cities: these were all factors contributing to the rise in interest in the environment (Rubin and Sachs, 1973; Schoenfeld, 1977). Gilbert (1976, p. 61) has said:

> Reflecting the ferment of the times, Richard Nixon issued a message on New Year's Day 1970 (the day NEPA was signed), in which he said, "The 1970's absolutely must be the years when America pays its debts to the past by reclaiming the purity of its air, its water and our living environment." Officially and unofficially, formally and informally, environmentalism had become a nationwide good thing.

Legislation favorable to the environment was enacted; NEPA, the Clean Air Act of 1970, the Solid Waste Disposal Act of 1970, the Water Pollution Control Act of 1972, the Pesticides Law (1972) and more. Environmentalism became institutionalized.

Yet few data have been gathered recently to determine whether or not the increased environmental coverage by the mass media around 1970 has been sustained (Hoesterey and Bowman, 1976). McCombs and Shaw (1972) indicated that the media play an important role in determining what issues are salient to the public: the media's agenda-setting role. They have said, "Readers learn not only about a given issue, but also how much importance to attach to that issue from the amount of information in a news story . . . ." Thus, there is little information available of use in assessing the current popular interest in the environmental movement, as measured by the quantity of environmental coverage in newspapers.

When did the amount of coverage peak and what has happened since that peak? Which environmental problems received the most coverage, and which the least? How long

have some environmental problems received coverage? Are some problems no longer brought to the public's attention by newspapers? What do newspapers portray as our environmental priorities, as indicated by the quantity of their coverage?

Along with the increase in overall newspaper coverage of the environment around 1970, O'Riordan and Hey (1976) have suggested there has been a heightened awareness of unintended side-effects of projects affecting the environment, due in part to enactment of NEPA. They indicated this awareness has spread to the public through environmental impact statements (EIS's), required by section 102(2)(c) of NEPA. Further, Schoenfeld (1977, p. 62) has said:

> Perhaps nothing has so changed the face of environmental coverage in the mass media as has the requirement of the National Environmental Policy Act for the development of environmental impact statements for federally funded projects accompanied by related requirements in many states. The "102" statements have automatically provided two basic "news" ingredients--they are events that are happening now and they have a high component of conflict.

The purpose of an EIS is to make public possible environmental risks of a proposed action, thus alerting the public to any possible unintended environmental consequences involved in the project. This information available in an EIS has increased the flow of news on environmental matters (Schoenfeld, 1977) and has provided a greater understanding of the overall effect of a project. Yet there are no data

to indicate precisely how great an effect NEPA has had on the environmental coverage of newspapers.

Has NEPA contributed significantly to the increased environmental coverage through the newspaper's use of EIS's as information sources? Or has NEPA had effects not discernible in newspapers? Have newspapers made the public more aware of the side-effects of environmental concerns?

The purpose of this study is to investigate the trends in newspaper coverage of the environment for the period 1962 through 1977. Overall coverage of the environment was determined, in addition to the coverage of specific environmental problem areas, e.g. air quality and water quality. This was done by a content analysis of the Chicago Tribune and New York Times.

Furthermore, O'Riordan and Hey (1976) have noted a heightened awareness of the possible adverse impacts of projects due in part to NEPA. The role of NEPA in providing this increased awareness was studied. Also, how the increased environmental awareness manifested itself in newspapers was considered.

The quantity of environmental coverage in newspapers has implications as to the ebbs and flows of the environmental movement of the 1970's and helps pinpoint environmental priorities as determined by which problems get the most coverage. The problem is to study how the environmental movement has been reflected in newspaper coverage.

This leads to the objectives of this study:

1. To determine the quantity of coverage of environmental issues in two leading newspapers from 1962-1977.
2. To determine the quantity of newspaper coverage given to individual environmental problem areas.
3. To determine the effects, if any, of NEPA on newspaper coverage given to environmental issues.
4. To determine how much coverage, if any, side-effects of environmental issues have received since 1962.

Definition of Terms and Content Categories

In order to analyze the content of newspapers for coverage of environmental issues, an operational definition of environment is needed. Rubin and Sachs (1973) have provided a definition of environmental issues with five categories which is utilized in this study along with additional categories, all mutually exclusive. The five used by Rubin and Sachs are:

1. Air quality: stories dealing with such problems as smog, carbon monoxide, sulfur dioxide and other pollutants resulting from automobile exhaust, factory emissions and other stationary sources; their effects on animal health and plant life;

their costs to the economic and social system and methods of control.

2. Water quality: stories dealing with such problems as factory wastes, sewage disposal, and thermal discharges; their effects on animal health and plant life; their costs to the economic and social system and methods of control.
3. Human population explosion and control: stories dealing with the possibility or presence of over-population and ways to prevent or cope with the increase, as well as the pressure which over-population exerts on such life support systems as living space, food, natural resources and deterioration in the quality of life. Stories related to birth control or abortion methods are included only if these articles refer to birth control or abortion as a means of curbing population increase.
4. Environmental additives: stories dealing with natural or manufactured substances introduced solely by man into the ecosystem, which can adversely affect the ecosystem. Also included are additives which can be transmitted through food chains and concentrated at each successive trophic level or which can alter the dynamic balance in the ecosystem through destruction of a species or more

subtle methods of artificial selection. Examples include DDT and other pesticides, herbicides, mercury, phosphorus, nuclear fallout and other radiological pollutants, defoliants and oil spilled at sea or port. This does not include environmental additives that will exclusively have biological effects on man such as cigarette smoke and saccharin in food. This does include methods or actions offered to prevent or redress such damage and alternatives to such natural and manufactured substances.

5. Management of energy-producing resources: stories discussing the supply of flowing water, coal, oil, natural gas, steam or fissionable materials available for the production of electric power, from the perspective of expanding power needs and naturally-decreasing resources. Also included are stories dealing with alternative energy sources such as solar, wind, geothermal and others and efforts to conserve energy. Stories on energy legislation are also included.

Rubin and Sachs note that their definition does not encompass a number of areas that could also be considered ecological or environmental. This study adds the following categories in order to consider some of these other environmental problem areas since this study is considering the

effect of NEPA which may affect other areas than the five-part definition of Rubin and Sachs. The three categories added are:

6. Preservation of natural amenities: stories dealing with actions or efforts to maintain or protect a natural area. Also included are actions to destroy or disturb natural settings or animals, for example, national forests, parks and wildlife. This does not include normal forest cutting or controlled hunting.
7. General: those stories dealing with two or more of the above categories.
8. Miscellaneous: stories dealing with other areas which may have significant effect on the environment or an ecosystem such as landfill, noise pollution, solid waste disposal, legislation dealing with pollution, "save the environment" efforts, construction with possible adverse ecologic effects, court decisions on the environment, and recycling.

If a story was coded as belonging to one of the eight environmental issue categories it was further classified yes or no to the following questions:

1. Was an environmental impact statement required for the main topic of the story? YES or NO.

NEPA requires (Section 102(2)(c), Appendix 1) an EIS whenever a federal agency proposes to take a major action having a significant effect on the quality of the human environment. Did such actions receive more coverage before or after NEPA? Using this definition and the Environmental Protection Agency's Environmental Impact Statement Directory (which gives specific examples for various agencies as to which projects need an EIS) a story could be coded YES or NO for this category.

2. Were side-effects of the environmental issue mentioned in the story? YES or NO.

This category deals with unintended side-effects of the project or action causing the environmental problem. To be coded as a YES in this category, a story had to deal with effects of the environmental problem which were latent or unintended. For example, a story which considered coal as an energy source, is dealing with the manifest effect of coal, but if the story also noted side-effects of coal as an energy source, such as health hazards, air pollution or effects of the smoke on plants, then the story is coded YES for this category. The reason this category is included is that some authors (O'Riordan and Hey, 1976) have mentioned an increased awareness of side-effects of projects since the environmental movement gained strength around 1970. Furthermore, EIS's presumably go beyond manifest intentions of a

project and bring out some of the underlying, unintended effects. So, if a story used an EIS as an information source, it would be expected that side-effects of the project might be mentioned.

3. Were there direct references in the story to the National Environmental Policy Act of 1969? YES or NO.

A YES in this category required that NEPA, environmental impact statement or Council on Environmental Quality (the advisory group to the President created by NEPA) be mentioned in the story. The use of these terms in a story indicate that NEPA did in some way have an effect on the coverage of whatever environmental issue is discussed in the story.

The measurement, in column inches, of a story, in the context of this study, includes the headline and any accompanying pictures since they are an important factor in whether a story is read (Budd, et al., 1967). The story was measured in column inches.

Research Hypotheses

It would seem that an increase in environmental coverage by newspapers would mean a greater number of stories and more column inches devoted to the environment. In this case it was hypothesized that:

1. There was an upward trend in the number of stories and column inches devoted to environmental issues for the period 1962-1977.

If the National Environmental Policy Act of 1969 (NEPA) had an effect on any increase in environmental coverage after its passage on January 1, 1970, then it would seem there would be more stories and/or column inches about topics requiring environmental impact statements (EIS's) after 1970 than before 1970 (a story could be on a topic that required an EIS before 1970 simply by fitting the definition, in retrospect, for projects needing an EIS). In addition, if NEPA has had a great direct effect on any increased coverage, it would seem that a substantial number of stories would mention NEPA or its requirements such as EIS's or the Council on Environmental Quality (CEQ). Under these circumstances it was hypothesized that:

2. A substantial number of stories after 1970 would mention NEPA, EIS or CEQ.
3. Proportionately more stories and column inches would be devoted to topics which fit NEPA's requirement for an EIS after 1970 than before.

Furthermore, if there was an increased awareness of environmental issues after 1970, it would seem part of the increased awareness would result in more news coverage of side-effects of environmental problems. In this case, it was hypothesized that:

4. Proportionately more stories and column inches would mention side-effects of environmental issues after 1970 than before.

CHAPTER II

LITERATURE REVIEW

Research on the current environmental movement has indicated that there was an increase in environmental coverage by the mass media in the late 1960's and early 1970's. A number of explanations have been proposed for the rise in coverage and interest in the environment. A generally acknowledged precursor was the publication of Silent Spring by Rachel Carson in 1962. More direct causes for the increased environmental awareness have been suggested, such as: the publication of more environmental journals, the Santa Barbara oil spill of 1969, the National Environmental Policy Act of 1969 (NEPA) and Earth Day 1970. Yet there has been a lack of research on what happened to the environmental information boom after the early 1970's. Also, some have suggested that NEPA was a major factor in the rise of news on the environment, while others suggest NEPA had much less of an effect.

Research has indicated there was an environmental "information explosion" in the late 1960's and early 1970's (Tichenor, et al., 1971; Erskine, 1972; Rubin and Sachs,

1973; Sellers and Jones, 1973; Gilbert, 1976; Schoenfeld, 1977). Tichenor, et al. (1971, p. 38) said:

> The environmental issue itself is not particularly new as veteran conservationists tell us repeatedly. What is new is the fact of sudden and widespread public recognition of environmental quality as an issue.

Rubin and Sachs (1973, p. 54) echo this view:

> From all indications 1969 was the magic year for news of the environmental crisis. For a variety of reasons . . . editors and broadcasters recognized a news story of proportions equal to the Cold War in the 1950's and race relations in the 1960's. The public mood in 1969 was receptive to this novel focus on environmental problems.

Tichenor, et al. (1971), Gilbert (1976) and Schoenfeld (1977) have said that a precursor to this movement came in 1962 with the publication of Silent Spring by Rachel Carson. Tichenor, et al. (1971, p. 38) said:

> In the early 1960's it may fairly be said that the pesticide controversy was a forerunner of the environment issue. A principal factor was Rachel Carson's book Silent Spring.

Other occurrences led to increased awareness of the environment. Rubin and Sachs (1973) note Paul Ehrlich's book Population Bomb (1968) was a bestseller and may have enlightened some people to an important environmental concern. Schoenfeld (1977) points out the increase in specialized journals contributed to environmental awareness since they "really focused attention on environmental affairs."

In 1969, the Santa Barbara oil spill gained national attention and helped more of the public become aware of environmental deterioration (Funkhouser, 1973; Rubin and Sachs, 1973; Sellers and Jones, 1973; Gilbert, 1976; Hoesterey and Bowman, 1976). Also around the same time, the environment became a political issue (Tichenor, et al., 1971; Rubin and Sachs, 1973; Sellers and Jones, 1973) which led to the passage of bills designed to protect the environment, including NEPA.

A common complaint about coverage of environmental issues has been that there was a lack of information on environmental issues due to their complexity (Sellers and Jones, 1973; Rubin and Sachs, 1973). They also indicated there had been a general lack of information available to predict accurately the environmental consequences of an action or project. Some have suggested that NEPA may have been an answer to these problems.

NEPA is cited as a contributing factor to increased awareness and information on the environment (Hoesterey and Bowman, 1976; O'Riordan and Hey, 1976). Gilbert (1976, p. 10) says, "The influence of NEPA has been both remarkable and surprising, because it was regarded at the time of its passage as a kind of motherhood bill." Schoenfeld (1977) also considers NEPA a significant piece of legislation. He says of NEPA, "It is unlikely that any other single federal

act has had such an inadvertent yet nonetheless profound impact on the flow of news on a particular aspect of public affairs."

Fairfax (1978) takes a different view of NEPA. She says it has not really furthered the environmental cause but rather has been (as the article was titled) "a disaster in the environmental movement." She says (p. 743):

> The initial response of environmentalists to the passage of NEPA is now described as euphoric. In fact the initial response was limited and skeptical. Very little appeared in the popular press at all.

She says NEPA does not really encourage fruitful public participation in shaping the authority of agencies making environmental decisions but rather NEPA "has wasted environmentalists' resources on processing paper." Thus, there is disagreement as to the effect NEPA has had.

Another component in the web of factors increasing environmental information was Earth Day 1970 (Bailey, 1971; Funkhouser, 1973; Hoesterey and Bowman, 1976; Schoenfeld, 1977). Bailey (1971, p. 5) said, "Clearly the publicity and coverage of E-day had raised the level of information in the population over time." Earth Day was able to focus attention on various environmental problems and was an event that received national coverage. Bailey (p. 8) also noted that public information campaigns in the mass media, such as Earth Day, widen the knowledge gap "as the educated become

more informed by the campaign than do the uneducated." Tichenor, et al. (1970) had earlier stated this view and go on to say the knowledge gap hypothesis "seems to suggest itself as a fundamental explanation for the apparent failure of mass publicity to inform the public at large."

A need for recent data on the environmental movement is suggested by Hoesterey and Bowman (1976, p. 61) who said, "to date there has been very little detailed information regarding environmental attitudes since the high level of interest in ecology five years ago." They also suggest the environmental information boom waned since 1970-71. But Perkes (1973), Bohl (1976) and Richmond (1976) did a three-part study on environmental attitudes of secondary school students. They found a generally positive attitude toward the environment and a poor command of factual environmental knowledge. Gilbert (1976) is optimistic about what has happened to environmental attitudes and the environmental movement. He says, "It has become much larger in every way than it was in 1970, supposedly the golden year of environmentalism."

A review of literature reveals agreement that there was an increase in environmental coverage in the late 1960's and early 1970's (Rubin and Sachs, 1973; Schoenfeld, 1977; and others). Yet there is a lack of information as to what happened since then (Hoesterey and Bowman, 1976). This

study seeks to go back to some of the roots of this current environmental movement (to 1962 and Silent Spring) and examine the trends of environmental coverage in newspapers through 1977 in order to find out how much information on the environment has been provided in newspapers.

In addition, there is disagreement as to the role NEPA has played in furthering the environmental cause. This study seeks to examine the effect, if any, of NEPA on the quantity of environmental coverage in newspapers.

CHAPTER III

PROCEDURES

This utilizes a content analysis of two newspapers to examine their coverage of environmental issues. According to Budd, Thorp and Donohew (1967, p. 2) a "content analysis is a systematic technique for analyzing message content and message handling--it is a tool for observing and analyzing the overt communication behavior of selected communicators." An underlying assumption is that the newspapers serve an agenda-setting role (McCombs and Shaw, 1972) and influence readers' awareness of a topic.

Population and Sampling

The newspapers chosen for the content analysis were the Chicago Tribune and the New York Times. These two newspapers were chosen because they are widely read and well-established. MacDougall (1972) has said of the Tribune that it is conservative Republican and rated in one poll as the ninth best newspaper in the nation. It is also rated ninth in polls cited by Merrill (1968). The New York Times is first in those same polls and is considered a more

liberal paper than the Tribune. The Tribune had a circulation of 740,069, Monday through Friday, and 698,925 on Saturday in 1977. The New York Times had a circulation of 803,123, Monday through Friday, and 654,491 on Saturday in 1977 (Editor and Publisher International Yearbook, 1977).

A sample of 24 issues[1] of the newspapers was selected for each year, 1962-1977 (see Appendix II for selected dates). The year 1962 was the first year because many reported (Tichenor, et al., 1971; Schoenfeld, 1977; and others) that the book Silent Spring (1962) was a forerunner to the later environmental movement around 1970, so this study looks at newspaper coverage of the environment from that point. Twenty-four issues were selected to provide a sampling of four newspapers for each day of the week, Monday through Saturday, to account for any difference in news coverage on different days. Sunday newspapers were not considered since their large size was prohibitive in allowing a reasonable amount of time to look through them and their makeup and readership differ drastically from Monday through Saturday.

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[1]Rubin and Sachs (1973) used a sample of 12 newspapers per year from 1965-1970 to investigate environmental news coverage in the San Francisco Chronicle. They followed a sampling procedure given by Stempel (1952). This procedure was reviewed with the consultation of the Statistics Laboratory of The Ohio State University and the adequacy of the procedure is in doubt since Stempel did not list his standard error for the sample. This study uses a larger sample of 24.

To determine which newspapers were to be selected for each year, one day between Monday and Saturday was randomly selected for each year. The corresponding first date in January of each year on which the randomly selected day fell was one of the newspapers to be analyzed. Thereafter, every thirteenth date, excluding Sunday ($\frac{365 \text{ total days} - 52 \text{ Sundays}}{24}$), was also selected to be analyzed until 24 dates were selected for each year. This stratified sampling method gives an equal number of issues for each day of the week and selects dates for all seasons of the year to account for any seasonal variation in news coverage.

The Late City Edition of the New York Times was used throughout the study except for a few times when it was not published due to strikes (see Appendix II). When this occurred other editions were analyzed instead. The Three Star Final of the Chicago Tribune (the Chicago Daily Tribune until February 17, 1963) was used until 1967, when the Four Star Final was used. These editions were the only ones available on microfilm at The Ohio State University Main Library. The use of the same edition takes into account variations due to differences in news available in the various editions printed.

Coding

The basic coding unit for the content analysis was the news story. Only hard news pages were analyzed; this includes all pages except the following: want ads, personal columns, society pages, entertainment pages, sports news, financial news, editorial pages, help columns, obituaries and weather. The environmental news stories were then coded into appropriate categories (Table 1, a sample coding sheet); air quality, water quality, human population explosion and control, environmental additives, management of energy resources, preservation of natural amenities, general and miscellaneous.

The stories coded into these categories were further coded yes or no for each of the following questions: Was an environmental impact statement required for the main topic of the story? Were side-effects of the environmental issue mentioned in the story? Were there direct references in the story to the National Environmental Policy Act of 1969?

All of the information to be analyzed was recorded in numbers to allow it to be easily keypunched. The coding sheet also had a space to allow for written comments about the story, such as a description of the story more specific than that provided by the environmental issue category; the page on which the story appeared; and whether or not the

TABLE 1

SAMPLE CODING SHEET

Newspaper 1 Date 0 3 1 8 7 5

A Environmental Issue Category	B Column Inches of the Story	C EIS Required for Story's Topic	D Side-Effects Mentioned in the Story	E Reference to NEPA?	F Comments: Story's Topic, page number, Pictures, etc.
1	5.5	0	1	0	Air pollution kills crops, page 7, no pictures
4	24	0	0	0	DDT dumped in river, page 1, with picture

Newspaper: 1 Chicago Tribune; 2 New York Times
Date: e.g. October 23, 1972 - 102372

Environmental issue category:

1. air quality
2. water quality
3. human population explosion and control
4. environmental additives
5. management of energy resources
6. preservation of natural amenities
7. general
8. misc.

Columns C, D and E:
Yes = 1
No = 0

story had any accompanying pictures. This information was recorded so that a story could be located in a specific paper if there were any doubts about the way it was coded. Furthermore, the more detailed description of the story allowed the environmental issue category in which the story was coded to be rechecked without going back to the newspaper. The more detailed description on the stories in the miscellaneous category could also be checked to determine whether there were other environmental issues which might have been assigned other categories.

The length of each coded story in column inches was also recorded to the nearest half-inch. This length included the headline and any accompanying pictures since they are important factors in determining whether a story is read or not (Budd, et al., 1967).

The lengths of the stories were in different scales, depending on the following factors: which microfilm reader was available and used and in what scale the newspaper was microfilmed. Also, the Chicago Tribune used an eight-column format with a 25 inch news column from 1962 until it switched to the six-column format in 1975, according to Damon Runnion of the Tribune staff.[2] With the six-column format they used a 22.5 inch news column. For this study,

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[2]Contacted by phone in February 1978.

all story lengths were converted to an eight-column, 25 inch scale for the Tribune. The conversion factors and how they were derived are in Table 2.

The New York Times used a 21.86 inch news column length with the eight-column format (1962-1976) and a 21.75 inch news column length with six-column format in October 1976, according to Editor and Publisher International Yearbook. For this study, the column length was assumed to be 22 inches from 1962 through 1977. All column-inch measurements were converted to an eight-column, 22 inch scale for the Times. The conversion factors and how they were derived are in Table 3.

When the length of the coded stories were converted to the same scale and totaled for all of the sampled papers in one year, a measure of the absolute total of the sampled newspaper coverage for the entire year was obtained.

Except for the 1968-1972 sampled issues of the Chicago Tribune, the first years sampled in this study, the proportion of all hard news devoted to the environmental issues was obtained. This was done by analyzing, coding and measuring the environmental news in the same manner as for all other years. In addition, all of the news (excluding ads) on the analyzed pages was measured, whether or not it dealt with the environmental issues. The proportion of total news coverage devoted to the environmental issues

TABLE 2

CONVERSION FACTOR FOR CHICAGO TRIBUNE

	News Column Length as Measured on Microfilm in inches	Converted 25 inch to column	Convert 6-column Page to 8-column Page*	Convert 6-column to 8-column or 8/6	Conversion Factor
1962	22	25/22			1.13
1963	18.5	25/18.5			1.35
1964	25	25/25			1.0
1965	20	25/20			1.25
1966	18.5	25/18.5			1.35
1967	18.5	25/18.5			1.35
1968	25	25/25			1.0
1969	22 through 10-1-64	25/22			1.13
	17 through 12-31-64	25/17			1.47
1970	22	25/22			1.13
1971	22	25/22			1.47
1972	17	25/17			1.13
1973	17	25/17			1.47
1974	17	25/17			1.47
1975	17 (8-col.)	25/17			1.47
	17 (6-col.)	25/17	.91	1.33	1.67
1976	17 through 2-17-76	25/17	.91	1.33	1.67
	16 through 12-21-76	25/16	.91	1.33	1.67
1977	16	25/16	.91	1.33	1.77

*The page of the six-column format contained about 91% of the news of the page of the eight-column format. This was calculated with the following information from Damon Runnion of the Chicago Tribune.

From 1962 until July 1975 the Tribune used:
- 25 inch news column
- 8.5 point type (72 pts/inch)
- 9.5 point slug
- 8 columns
- 11 pica column width

From July 1975 through 1977 the Tribune used:
- 22.5 inch news column
- 8.5 point type
- 9.0 point slug
- 6 columns
- 14 pica column width

TABLE 2--Continued

72 points/inch x 25 inches/ column = 1,800 points/ column	72 points/inch x 22.5 in./ column = 1,620 points/ column
1800 points/column x 8 columns/page = 14,400 points/ page	1620 points/column x 6 column/page = 9720 points/ page
14,400 points/page ÷ 9.5 points/ line = 1515.74 line/page	9720 points/page ÷ 9 points/ line = 1080 line/page
1515.74 line/page x 11 picas/ line = 16,673.69 pica/page	1080 line/page x 14 picas/ line = 15,120 picas/ page

$$\frac{\text{15,120 picas/page}}{\text{16,673.69 picas/page}} = .91$$

or

the 6-column page contains 91% of the news of the 8-column page.

TABLE 3

CONVERSION FACTORS FOR NEW YORK TIMES

	News Column Length as Measured on Microfilm, in Inches	Converted to 22 in. Column	Convert 6-column page to 8-column page*	Convert 6-column to 8-column or 8/6	Conversion Factor
1962	18	22/18			1.22
1963	18	22/18			1.22
1964	18	22/18			1.22
1965	18	22/18			1.22
1966	18	22/18			1.22
1967	16.5	22/16.5			1.33
1968	16.5	22/16.5			1.33
1969	17	22/17			1.29
1970	17	22/17			1.29
1971	17	22/17			1.29
1972	17	22/17			1.29
1973	17	22/17			1.29
1974	16	22/16			1.37
1975	16	22/16			1.37
1976	16 (8-column)	22/16			1.37
	16 (6-column)	22/16	.91	1.33	1.55
1977	16	22/16	.91	1.33	1.55

*1962 until October 1976
8 columns
11 pica column width
195 lines per column

195 lines/col x 8 col/page x 11 pica/line = 17,160 pica/page

October, 1976 on
6 columns
14.5 pica column width
180 lines per column

180 lines/col x 6 col/page x 14.5 pica/col. = 15,660 pica/page

$\frac{15,660}{17,160}$ = .91 or the 6-column page contains 91% of the news of the 8-column page.

could then be obtained by dividing total environmental coverage by total news coverage.

The total news coverage was measured for just 1968-1972 of the Tribune to determine whether it was worth the time to do it for all years. It was decided that absolute coverage will be as good a measure of environmental news as proportional coverage since there could be more absolute coverage in one year than another and still not have more proportional coverage for the same year (if the quantity of all news increased along with the environmental news).

Reliability

After all newspapers were coded, five issues for the Times and Tribune were coded again as a reliability check. There was 97 percent agreement between the issues that were recoded.

CHAPTER IV

STATISTICAL ANALYSIS

The analysis of the data was done with the consultation of Rakesh Rustagi of the Statistics Laboratory of The Ohio State University. The Statistical Analysis System (SAS) (Barr, et al., 1976), a computer program recommended for this study, was utilized to obtain general statistical descriptions of the data. Also, trends were examined and tests for significant differences were run.

The general statistics obtained included: mean, variance, standard deviation, coefficient of variation and standard error. A chi-square test was run to determine whether there were significant differences in the proportion of stories and column inches on topics requiring an EIS before and after 1970. The same test was used to test for significant differences in the proportion of stories and column inches which mentioned side-effects of environmental issues before and after 1969-1970.

A Spearman Rank Correlation Coefficient was obtained to indicate the trend in environmental coverage from 1962-1977 (Haskins, 1961). This coefficient was also obtained to examine the trend from 1962-1970 and 1970-1977. A correlation

coefficient was also obtained to determine whether the number of stories and the length, in column inches, of stories were correlated. These tests were run only on the combined totals of all categories since the main interest of this study is the overall increase in environmental information in newspapers.

Results and Discussion

This chapter reports the results for all of the environmental issue categories combined and for each category individually. A discussion follows the presentation of the results for each category.

Tables are given for the proportion of the number of stories and column inches falling into the yes and no responses of three questions: 1) Would an EIS have been required for the story's topic had NEPA existed for the entire period 1962-1977? 2) Was NEPA, EIS or Council on Environmental Quality (CEQ) mentioned in the story? 3) Were side-effects of the environmental problem mentioned in the story?

For both newspapers the year with the most total coverage was 1970, so the tables are divided into periods before and after the peak, i.e., 1962-1969 and 1970-1977. The same scale is used on all graphs for the number of stories and the same scale is used for column inches on the

graphs for the newspapers, although the length measurements for the two newspapers are in different scales.

Tables 4 and 5 give general statistical descriptions for coverage of all categories in the New York Times and Chicago Tribune.

Coverage of All Categories

Results

The trend in coverage of environmental issues in the Chicago Tribune and New York Times from 1962-1977 is shown in Figures 1 and 2. Figure 1 shows the trend in the number of stories on environmental issues in the 24 issues analyzed each year while Figure 2 shows the trend in column inches.

The increased coverage represented in the graphs is not just a reflection of more space devoted to all news in the newspapers. The Chicago Tribune not only increased its absolute coverage of environmental problems but increased its proportional coverage of environmental news for 1968-1972 as shown in Figure 3. The trend is basically the same as the trend in absolute coverage for the same years. The New York Times had approximately the same number of pages throughout the study; about 75-90, indicating news space remained about the same.

TABLE 4

STATISTICS ON TOTAL YEARLY ENVIRONMENTAL COVERAGE AND TOTAL NUMBER OF STORIES IN THE NEW YORK TIMES, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total environmental coverage per year in column inches	118.9	135.4	190.3	86.0	211.6	418.9	428.2	441.1	1259.0	1022.3	734.0	1187.4	1220.6	695.9	591.4	682.7
Mean daily coverage	4.9	5.6	7.9	3.6	8.8	17.4	17.8	18.4	52.4	42.5	30.5	44.5	50.8	29.0	24.6	28.4
Standard deviation	10.9	8.5	16.2	7.8	11.4	24.0	27.6	22.1	46.3	45.5	31.8	49.1	37.5	28.3	26.7	35.3
Standard error of mean	2.2	1.7	3.3	1.6	2.3	4.9	5.6	4.5	9.4	9.3	6.5	10.0	7.7	5.7	5.5	7.2
Variance	119.5	72.2	262.5	62.0	130.3	579.3	765.3	489.5	2142.6	2075.1	1014.7	2418.9	1412.1	800.7	714.5	1247.3
Coefficient of Variation	220.5	150.6	204.3	219.7	129.4	137.8	155.0	120.3	88.2	106.9	104.1	99.4	73.9	97.6	108.4	124.1
Total number of environmental stories per year	6	13	11	7	13	24	18	24	58	35	36	50	37	32	29	29
Average number of stories per day	.25	.54	.45	.29	.54	1.0	.75	1.0	2.41	1.45	1.5	2.08	1.54	1.33	1.20	1.20

TABLE 5

STATISTICS ON TOTAL YEARLY ENVIRONMENTAL COVERAGE AND TOTAL NUMBER OF STORIES IN THE CHICAGO TRIBUNE, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total environmental coverage per year in column inches	68.9	95.1	52.0	69.3	148.5	436.0	301.7	626.9	1036.2	737.2	538.9	488.0	446.1	810.2	436.4	791.2
Mean daily coverage	2.9	2.9	2.1	2.9	6.2	18.1	12.5	26.1	43.1	30.7	22.4	20.3	18.6	33.7	18.2	32.9
Standard deviation	8.2	9.2	4.6	8.3	13.1	21.2	15.4	42.8	48.3	22.6	51.8	22.3	26.6	48.8	29.0	54.2
Standard error of mean	1.7	1.9	.9	1.7	2.7	4.3	3.1	8.7	9.8	4.6	10.5	4.5	5.4	9.9	5.9	11.0
Variance	67.6	85.0	21.5	69.4	172.8	499.0	238.8	1831.7	2330.4	513.9	2683.0	498.7	707.9	2381.6	842.1	2938.0
Coefficient of Variation	286.3	232.5	214.1	288.2	212.4	116.6	122.9	163.8	111.8	73.8	230.6	109.8	143.1	144.5	159.5	164.4
Total number of environmental stories	3	7	5	4	8	21	24	29	69	50	27	27	21	34	17	36
Average number of stories per day	.12	.29	.20	.16	.33	.87	1.0	1.20	2.87	2.08	1.12	1.12	.87	1.41	.70	1.5

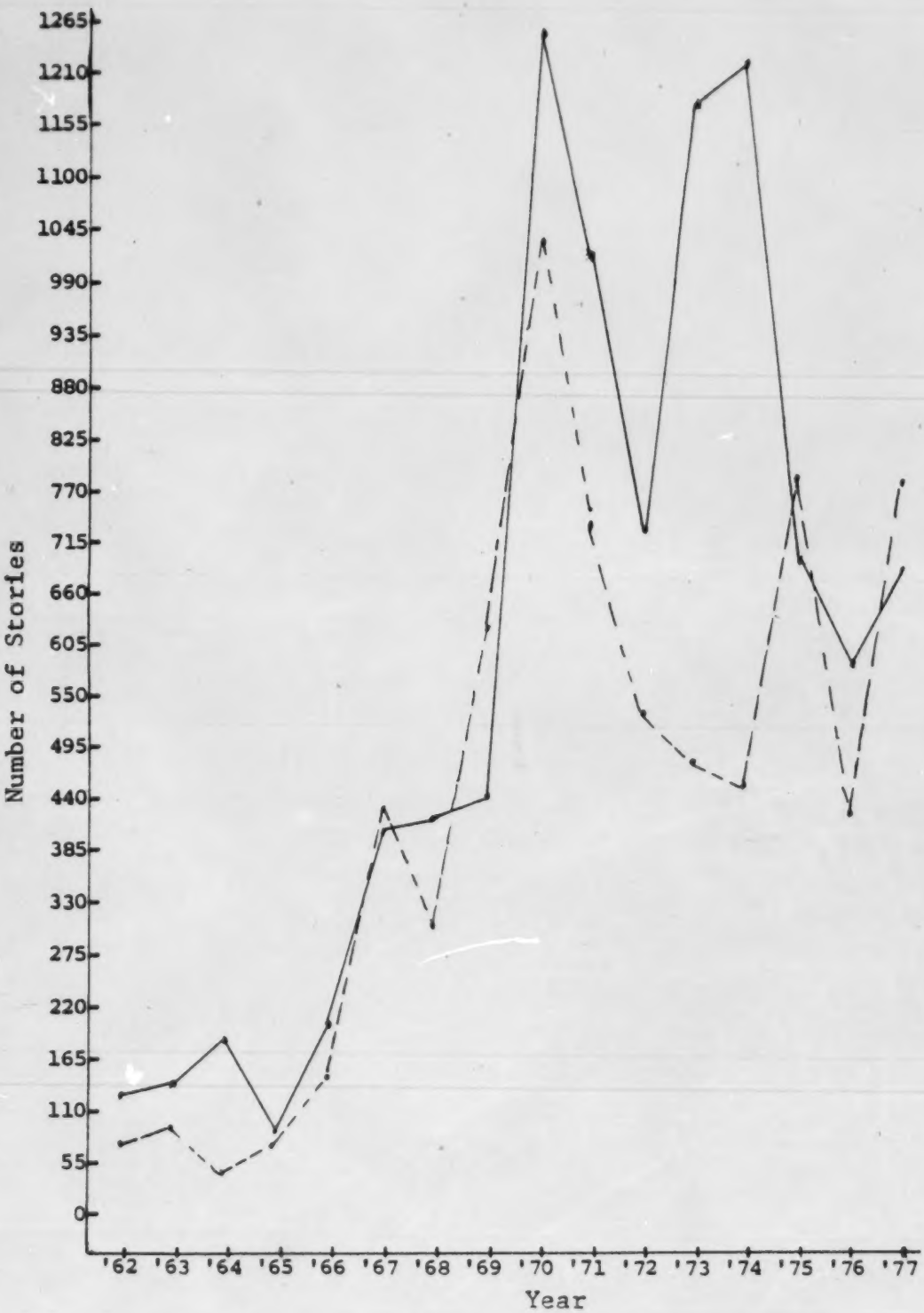

Figure 1.--Yearly number of stories in all categories for the Chicago Tribune - - - -
New York Times _____

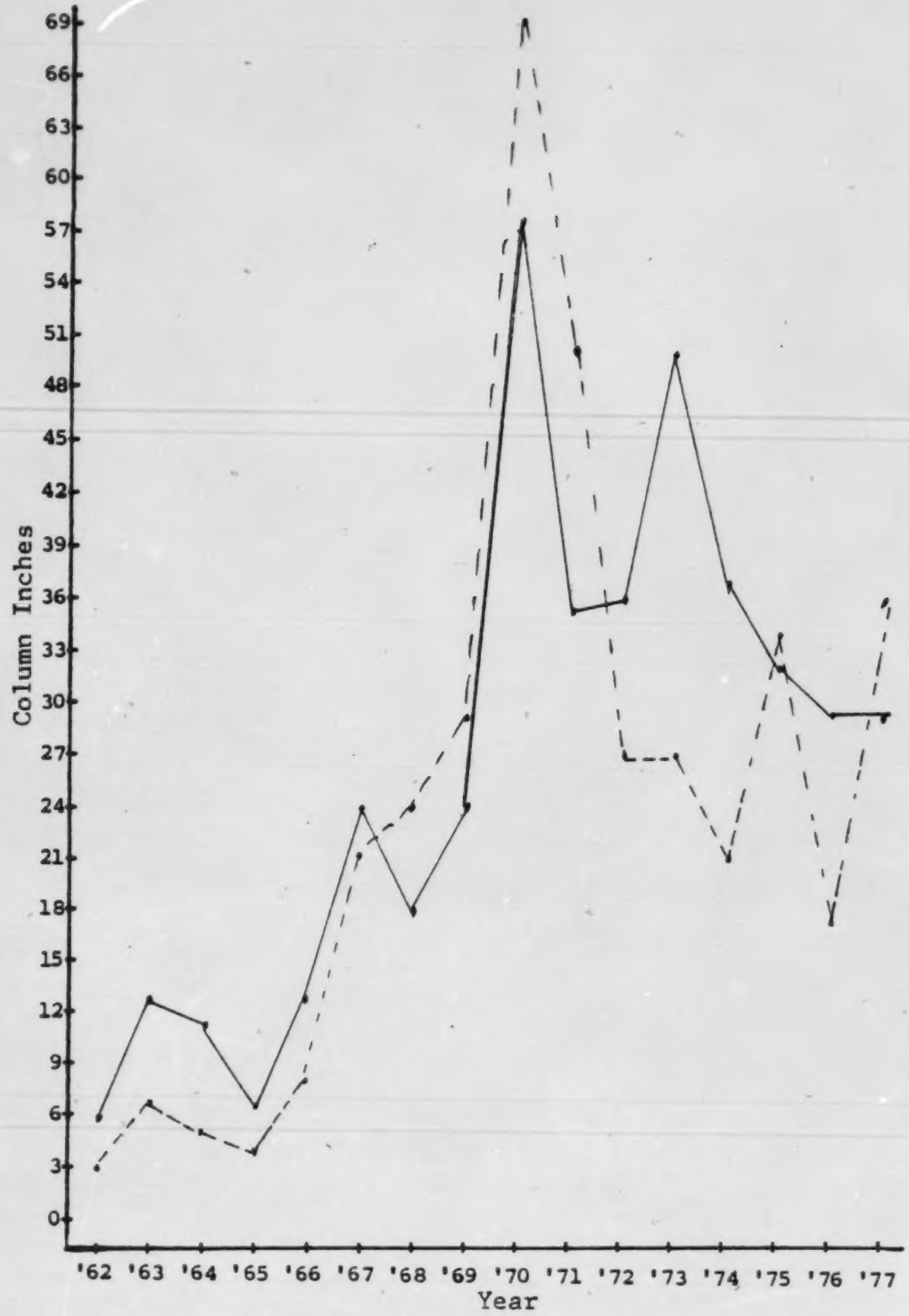

Figure 2.--Yearly total of column inches in all categories for the Chicago Tribune - - - -
New York Times ———

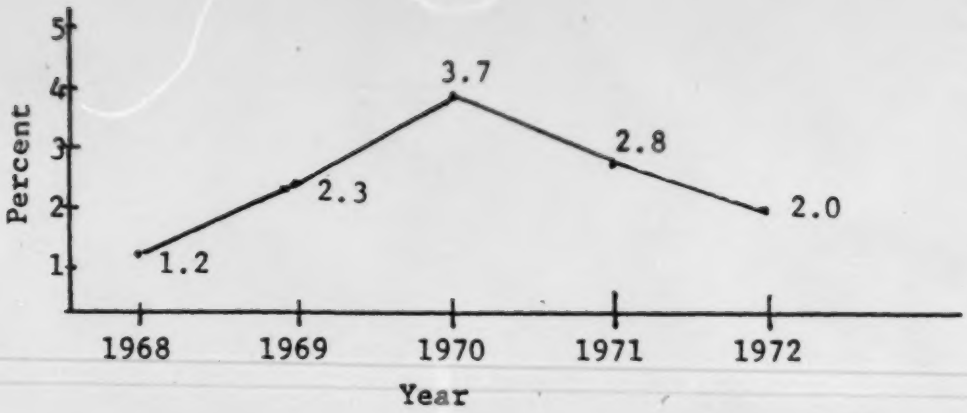

Figure 3.--Proportional coverage of the environment in the Tribune, 1968-1972.

First Hypothesis

1. There was an upward trend in the number of stories and column inches devoted to environmental problems for the period 1962-1977.

The Spearman Rank Correlation Coefficient was used to test this hypothesis. The coefficient ranges in value from -1.0 to +1.0. A coefficient of -1.0 indicates a perfect downward trend while a +1.0 coefficient indicates a perfect upward trend. This test indicates direction and consistency of a trend; it does not measure magnitude. The results of this test are shown in Table 6. These highly positive coefficients indicate a definite upward trend and support the hypothesis.

The trend after 1970 was unknown so the Spearman test was run for the period 1970-1977 and the results are in Table 7. The coefficients for the Times were significant

at the .05 level while for the Tribune the coefficients were not significantly different from a coefficient of 0 (steady, no trend) at the .05 level.

TABLE 6

SPEARMAN RANK CORRELATION COEFFICIENT, 1962-1977

		Coefficient
Times	Number of Stories	+.88
	Column Inches	+.90
Tribune	Number of Stories	+.93
	Column Inches	+.90

Significance = .05

TABLE 7

SPEARMAN RANK CORRELATION COEFFICIENT, 1970-1977

		Coefficient
Times	Number of Stories	-.78
	Column Inches	-.76
Tribune	Number of Stories	-.49
	Column Inches	-.31

The Spearman Rank Correlation Coefficients for the entire period of the study, 1962-1977, are given in Table 8 and indicate an upward trend significant at the .05 level.

TABLE 8

SPEARMAN RANK CORRELATION COEFFICIENT, 1962-1977

		Coefficient
Times	Number of Stories	+.76
	Column Inches	+.76
Tribune	Number of Stories	+.67
	Column Inches	+.75

Second Hypothesis

2. A substantial number of stories after 1970 would mention NEPA, EIS, or CEO.

The results for support of this hypothesis are descriptive data given in Table 9.

TABLE 9

COLUMN INCHES AND NUMBER OF STORIES IN WHICH NEPA WAS MENTIONED, 1970-1977

		Number	Inches
Tribune			
NEPA mentioned	YES	4, or 1%	197, or 2.8%
	NO	277, or 99%	4947, or 96.2%
Times			
NEPA mentioned	YES	16, or 5.2%	332, or 4.6%
	NO	290, or 94.8%	6909, or 95.4%

For this study, these figures do not support the second hypothesis.

Third Hypothesis

3. Proportionately more stories and column inches would be devoted to topics which fit NEPA's requirement for an EIS after 1970 than before.

A chi-square test was used to test this hypothesis. The results are given in Table 10.

TABLE 10

PERCENT OF THE NUMBER OF STORIES AND COLUMN INCHES FOR WHICH AN EIS WOULD HAVE BEEN REQUIRED

		EIS Needed	
		1962-1969	1970-1977
Times	Number of Stories	12.9%	11.8%
	Column Inches	15.5	12.9
Tribune	Number of Stories	11.9	9.6
	Column Inches	9.5	14.1

There were no significant differences at the .05 level except for significantly more column inches in the Tribune after 1970 on topics needing an EIS than before. For the most part this hypothesis was not supported.

Fourth Hypothesis

4. Proportionately more stories and column inches would mention side-effects after 1970 than before.

This hypothesis was tested with a chi-square test for the periods 1962-1969 and 1970-1977. In addition, since 1969 has been suggested as the start of the increased environmental awareness (Rubin and Sachs, 1973), the periods 1962-1968 and 1969-1977 were also tested for significant differences. The results are given in Table 11.

TABLE 11

PERCENTAGE OF STORIES AND COLUMN INCHES IN WHICH SIDE-EFFECTS WERE MENTIONED

	Side-effects Noted			
	1962-1968	1969-1977	1962-1969	1970-1977
Times				
Number of Stories	37.0%	41.2%	37.0%	41.5%
Column Inches	49.7	58.0	50.2	58.4
Tribune				
Number of Stories	26.4	25.5	26.7	25.3
Column Inches	40.1	48.1	46.6	46.9

There were no significant differences at the .05 level in the proportion of the number of stories mentioning side-effects for either newspaper for 1962-1968 and 1969-1977 or 1962-1969 and 1970-1977. There was a significant

increase at the .05 level in the proportion of column inches mentioning side-effects for the Times for both periods compared. There was a significant increase in the proportion of column inches mentioning side-effects from 1962-1968 to 1969-1977 in the Tribune, but no significant increase from 1962-1969 to 1970-1977. This hypothesis is generally supported with column inches but rejected when comparing the proportion of the number of stories, indicating that while the proportion of stories stayed about the same, the space the stories occupied increased at a greater rate than the number of stories.

Although there are different findings for this hypothesis depending on whether number of stories or column inches is considered, there is still a .94 correlation coefficient between number of stories and column inches for the Tribune and a .95 correlation coefficient for the Times.

Discussion

There is a definite upward trend in quantity of coverage of environmental problems from 1962-1970 and from 1962-1977 (Tables 6 and 8). This indicates a growing strength in the "new environmentalism" (The Fourth Annual Report of the Council on Environmental Quality, 1973) with a peak in 1970. After the peak, the trend from 1970-1977 tended to be downward but the levels were still above the levels

attained in most of the 1960's. The increased coverage was not just in absolute figures but more of the total available news space was devoted to environmental issues (Figure 3). Coverage tended to decrease in the presidential election years after 1970.

The hypothesis that NEPA had a substantial direct effect on the increased environmental coverage is not supported by the findings. This suggests that NEPA may not have been a cause of the new environmentalism but rather an effect. EIS's may provide more information to the public on environmental issues but it is not reflected in this study. EIS's become public documents and add to the information available on a project, but newspapers fail to use them as an information source.

In addition, generally there was not significantly more coverage of projects that would need an EIS according to Section 102(2)(c) of NEPA. Stories on these topics were only 10-15 percent of the total coverage (Table 10), which does not indicate a particularly greater awareness of such projects after the passage of NEPA.

A story in the Times on March 4, 1977 offers an explanation for NEPA's apparent lack of effect. The story takes the point that EIS preparation is a nuisance and bureaucratic boondoggle. If EIS's are not popular with the agency which must prepare them, they are not likely to be

cited as information sources by officials to reporters. And how many reporters have the time or inclination to examine thoroughly an EIS, which at times can be an unwieldy document?

Even though NEPA did not have a demonstrable direct effect, it may have contributed a little to the overall environmental awareness since there was greater mention of side-effects of environmental problems after 1969-1970. There was no significant increase in the proportion of stories dealing with side-effects but there was a significant increase in the amount of space (column inches) devoted to stories mentioning side-effects (Table 11). The increased awareness of side-effects seemed to start in 1969 which may have helped create a mood favorable to a bill such as NEPA.

The increased environmental coverage was reflected in the number of stories and column inches. The high correlation between number of stories and column inches indicates either one can be used to measure increases in the quantity of coverage on a topic.

A consideration of the results for the individual environmental issue categories will follow. General data, the average number of stories and column inches for each category for both newspapers are given in Tables 12, 13, 14 and 15.

TABLE 12

TOTAL NUMBER OF STORIES PER YEAR AND AVERAGE NUMBER PER DAY IN EACH ENVIRONMENTAL CATEGORY OF THE NEW YORK TIMES, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	
Air Quality	0	3	2	2	7	8	3	2	10	6	7	11	5	6	2	5	Total
	0	.12	.08	.08	.29	.33	.12	.08	.41	.25	.29	.45	.20	.25	.08	.20	Ave.
Water Quality	1	1	0	2	1	2	1	3	9	4	8	3	2	1	3	2	Total
	.04	.04	0	.08	.04	.08	.04	.12	.37	.16	.33	.12	.08	.04	.12	.08	Ave.
Population Explosion	0	0	0	0	0	1	2	1	0	0	0	1	0	0	2	1	Total
	0	0	0	0	0	.04	.08	.04	0	0	0	.04	0	0	.08	.04	Ave.
Environmental Additives	0	8	2	2	1	3	3	9	15	3	3	2	5	3	5	1	Total
	0	.33	.08	.08	.04	.12	.12	.37	.62	.12	.12	.08	.20	.12	.20	.04	Ave.
Energy Resources	0	0	0	0	0	1	1	3	3	6	6	17	12	9	8	13	Total
	0	0	0	0	0	.04	.04	.12	.12	.25	.25	.70	.5	.37	.33	.54	Ave.
Natural Amenities	4	0	3	1	4	5	5	2	7	3	3	7	5	5	7	4	Total
	.16	0	.12	.04	.16	.20	.20	.08	.29	.12	.12	.29	.20	.20	.29	.16	Ave.
General	1	0	2	0	0	0	0	0	2	2	3	3	3	1	1	0	Total
	.04	0	.08	0	0	0	0	0	.08	.08	.12	.12	.12	.04	.04	0	Ave.
Misc.	0	1	2	0	0	4	3	4	12	11	6	6	5	7	1	3	Total
	0	.04	.08	0	0	.16	.12	.16	.5	.45	.25	.25	.20	.29	.04	.12	Ave.

TABLE 13

TOTAL NUMBER OF STORIES PER YEAR AND AVERAGE NUMBER PER DAY IN EACH ENVIRONMENTAL CATEGORY OF THE CHICAGO TRIBUNE, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	
Air Quality	2	1	0	1	0	2	4	11	18	11	5	8	5	8	4	5	Total
	.08	.04	0	.04	0	.08	.16	.45	.75	.45	.20	.33	.20	.33	.16	.20	Ave.
Water Quality	1	1	1	1	2	14	9	5	17	1	5	3	2	3	0	2	Total
	.04	.04	.04	.04	.08	.58	.37	.20	.70	.04	.20	.12	.08	.12	0	.08	Ave.
Population Explosion	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	Total
	0	0	.04	.04	0	0	.04	.04	.04	.04	0	0	0	0	0	0	Ave.
Environmental Additives	0	2	1	0	1	2	3	6	8	12	2	1	1	1	2	5	Total
	0	.08	.04	0	.04	.08	.12	.25	.33	.5	.08	.04	.04	.04	.08	.20	Ave.
Energy Resources	0	0	0	0	0	1	0	0	0	2	2	8	11	14	6	19	Total
	0	0	0	0	0	.04	0	0	0	.08	.08	.33	.45	.58	.25	.79	Ave.
Natural Amenities	0	3	1	1	5	1	3	3	3	2	2	1	0	1	1	1	Total
	0	.12	.04	.04	.20	.04	.12	.12	.12	.08	.08	.04	0	.04	.04	.04	Ave.
General	0	0	0	0	0	0	3	0	13	6	4	2	1	2	1	0	Total
	0	0	0	0	0	0	.12	0	.54	.25	.16	.08	.04	.08	.04	0	Ave.
Misc.	0	0	1	0	0	1	1	3	9	15	7	4	1	5	3	4	Total
	0	0	.04	0	0	.04	.04	.12	.37	.62	.29	.16	.04	.20	.12	.16	Ave.

TABLE 14

TOTAL COLUMN INCHES AND AVERAGES IN EACH ENVIRONMENTAL CATEGORY PER YEAR IN THE NEW YORK TIMES, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	
Air Quality	0	26.8	29.3	32.9	111.0	125.0	45.2	12.9	196.7	111.6	167.7	204.4	106.8	132.2	21.9	106.1	Total per ye
	0	8.9	14.6	32.9	18.5	17.8	15.0	6.5	28.1	18.6	33.5	25.5	26.7	22.0	21.9	21.2	Ave. per sto
	0	1.1	1.2	1.4	4.6	5.2	1.8	.5	8.2	4.6	7.0	8.5	4.4	5.5	.9	4.4	Ave. per day
Water Quality	29.3	13.4	0	31.1	4.9	40.5	11.9	71.6	100.6	54.2	154.1	67.0	80.1	44.5	65.7	17.0	Total per ye
	29.3	13.4	0	15.5	4.9	20.2	11.9	23.8	14.3	13.5	22.0	22.3	40.0	44.5	32.8	8.5	Ave. per sto
	1.2	.6	0	1.3	.2	1.7	.5	3.0	4.2	2.2	6.4	2.8	3.3	1.8	2.7	.7	Ave. per day
Population Explosion	0	0	0	0	0	12.0	58.5	23.2	0	0	0	36.1	0	0	61.6	20.9	Total per ye
	0	0	0	0	0	12.0	29.2	23.2	0	0	0	36.1	0	0	30.8	20.9	Ave. per sto
	0	0	0	0	0	.5	2.4	.9	0	0	0	1.5	0	0	2.5	.8	Ave. per day
Environmental Additives	0	83.5	19.5	14.6	24.4	45.2	57.8	143.8	305.0	46.4	65.8	25.8	100.7	34.9	93.3	34.1	Total per ye
	0	16.7	9.7	7.3	24.4	15.0	19.2	17.9	27.7	15.4	32.9	12.9	20.1	11.6	23.3	34.1	Ave. per sto
	0	3.5	.8	.6	1.0	1.9	2.4	6.0	12.7	1.9	2.7	1.0	4.2	1.4	3.9	1.4	Ave. per day
Energy Resources	0	0	0	0	0	19.9	9.3	38.7	79.3	268.3	158.0	443.7	343.9	254.8	137.1	295.2	Total per ye
	0	0	0	0	0	19.9	9.3	12.9	39.6	53.6	26.3	40.3	34.3	28.3	27.4	36.9	Ave. per sto
	0	0	0	0	0	.8	.4	1.6	3.3	11.2	6.6	18.5	14.5	10.6	5.7	12.3	Ave. per day
Natural Amenities	76.2	0	80.5	7.3	71.4	87.8	196.1	41.3	268.9	143.8	29.6	193.5	300.7	100.7	159.4	118.5	Total per ye
	19.0	0	26.8	7.3	17.8	29.2	49.0	20.6	44.8	47.9	9.9	32.2	75.1	20.1	26.5	29.6	Ave. per sto
	3.1	0	3.3	.3	2.9	3.6	8.1	1.7	11.2	6.0	1.2	8.0	12.5	4.2	6.6	4.9	Ave. per day
General	13.4	0	28.6	0	0	0	0	0	77.4	123.8	52.2	92.2	64.4	24.6	27.4	0	Total per ye
	13.4	0	14.3	0	0	0	0	0	38.7	61.9	17.4	30.7	21.4	24.6	27.4	0	Ave. per sto
	.6	0	1.2	0	0	0	0	0	3.2	5.1	2.1	3.8	2.7	1.0	1.1	0	Ave. per day
Misc.	0	11.6	32.3	0	0	88.4	49.2	109.6	230.9	274.1	106.4	124.5	224.0	104.1	24.8	90.6	Total per ye
	0	11.6	32.3	0	0	22.1	16.4	36.5	28.8	27.4	17.7	24.8	44.8	14.8	24.8	30.2	Ave. per sto
	0	.5	1.3	0	0	3.7	2.0	4.5	9.6	11.4	4.4	5.2	9.3	4.3	1.0	3.7	Ave. per day

TABLE 15

TOTAL COLUMN INCHES AND AVERAGES IN EACH ENVIRONMENTAL CATEGORY PER YEAR IN THE CHICAGO TRIBUNE, 1962-1977

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	
Air Quality	41.8	12.8	0	22.5	0	42.5	51.5	186.5	205.6	171.2	189.9	260.0	73.5	75.8	124.8	62.8	Total per year
	20.9	12.8	0	22.5	0	21.2	12.8	23.3	15.8	19.0	20.4	20.9	14.7	15.1	31.1	15.7	Ave. per story
	1.7	.5	0	.9	0	1.7	2.1	7.7	8.5	7.1	7.9	10.8	3.0	3.1	5.2	2.6	Ave. per day
Water Quality	27.1	16.2	6.0	27.5	27.6	300.3	134.5	155.9	243.5	2.9	46.7	21.3	55.1	256.5	0	21.2	Total per year
	27.1	16.2	6.0	27.5	13.8	33.3	19.2	31.1	20.2	2.9	9.3	7.1	27.5	85.5	0	10.6	Ave. per story
	1.1	.6	.2	1.1	1.1	12.5	5.6	6.5	10.1	.1	1.9	.9	2.3	10.7	0	.9	Ave. per day
Population Explosion	0	0	14	7.5	0	0	1.5	13.5	5.0	15.4	0	0	0	0	0	0	Total per year
	0	0	14	7.5	0	0	1.5	13.5	5.0	15.4	0	0	0	0	0	0	Ave. per story
	0	0	.6	.3	0	0	.06	.5	.2	.6	0	0	0	0	0	0	Ave. per day
Environmental Additives	0	25.6	6.0	0	12.1	35.7	22.5	82.5	40.1	163.1	15.8	13.2	23.5	2.9	21.2	43.3	Total per year
	0	12.8	6.0	0	12.1	17.8	11.2	13.7	5.7	18.1	7.9	13.2	23.5	2.9	10.6	8.6	Ave. per story
	0	1.0	.2	0	.5	1.5	.9	3.4	1.6	6.8	.67	.5	1.0	.1	.9	1.8	Ave. per day
Energy Resources	0	0	0	0	0	15.5	0	0	0	21.3	31.6	213.9	271.2	273.5	85.2	607.1	Total per year
	0	0	0	0	0	15.5	0	0	0	21.3	15.8	30.5	38.7	27.3	14.2	46.7	Ave. per story
	0	0	0	0	0	.6	0	0	0	.9	1.3	8.9	11.3	11.3	3.5	25.3	Ave. per day
Natural Amenities	0	40.5	14.0	11.9	108.7	14.8	18.5	81.2	103.9	19.8	36.7	32.3	0	36.7	35.4	8.8	Total per year
	0	13.5	14.0	11.9	27.1	14.8	6.1	40.6	51.9	9.9	18.3	32.3	0	36.7	35.4	8.8	Ave. per story
	0	1.7	.6	.5	4.5	.6	.8	3.4	4.3	.8	1.5	1.3	0	1.5	1.5	.4	Ave. per day
General	0	0	0	0	0	0	68.5	0	200	107.3	236.1	20.6	3.7	59.0	19.5	0	Total per year
	0	0	0	0	0	0	22.8	0	25	21.4	78.7	20.6	3.7	29.5	19.5	0	Ave. per story
	0	0	0	0	0	0	2.8	0	8.3	4.5	9.8	.8	.1	2.4	.8	0	Ave. per day
Misc.	0	0	12.0	0	0	27.0	4.7	107.2	237.8	235.9	89.8	40.4	19.1	105.6	150.3	47.8	Total per year
	0	0	12.0	0	0	27.0	4.7	35.7	29.7	23.5	12.8	10.1	19.1	26.4	50.1	11.9	Ave. per story
	0	0	.5	0	0	1.1	.2	4.5	9.9	9.8	3.7	1.7	.8	4.4	6.2	2.0	Ave. per day

Energy Resources

Results

The coverage of energy resources in the New York Times and Chicago Tribune from 1962-1977, given in number of stories and column inches is shown in Figures 4 and 5. The coverage shot up around 1973.

The number of stories and column inches of coverage of energy resources which mention NEPA, EIS or CEQ were not numerous as indicated in Tables 16 and 17.

TABLE 16

STORIES ON ENERGY MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	6	8.1	1	1.6
No	68	91.9	61	98.4
Total	74	100.0	62	100.0

TABLE 17

COLUMN INCHES ON ENERGY MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In.	Percent	Col. In.	Percent
Yes	101	5.2	148	10.0
No	1842	94.8	1322	90.0
Total	1943	100.0	1470	100.0

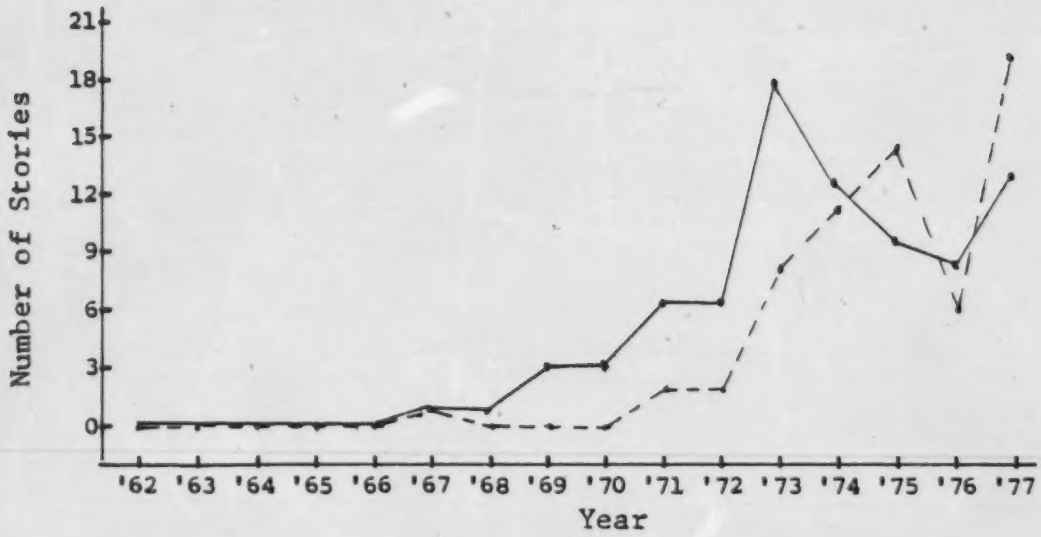

Figure 4.--Yearly number of stories on energy for the Chicago Tribune -------
New York Times ————

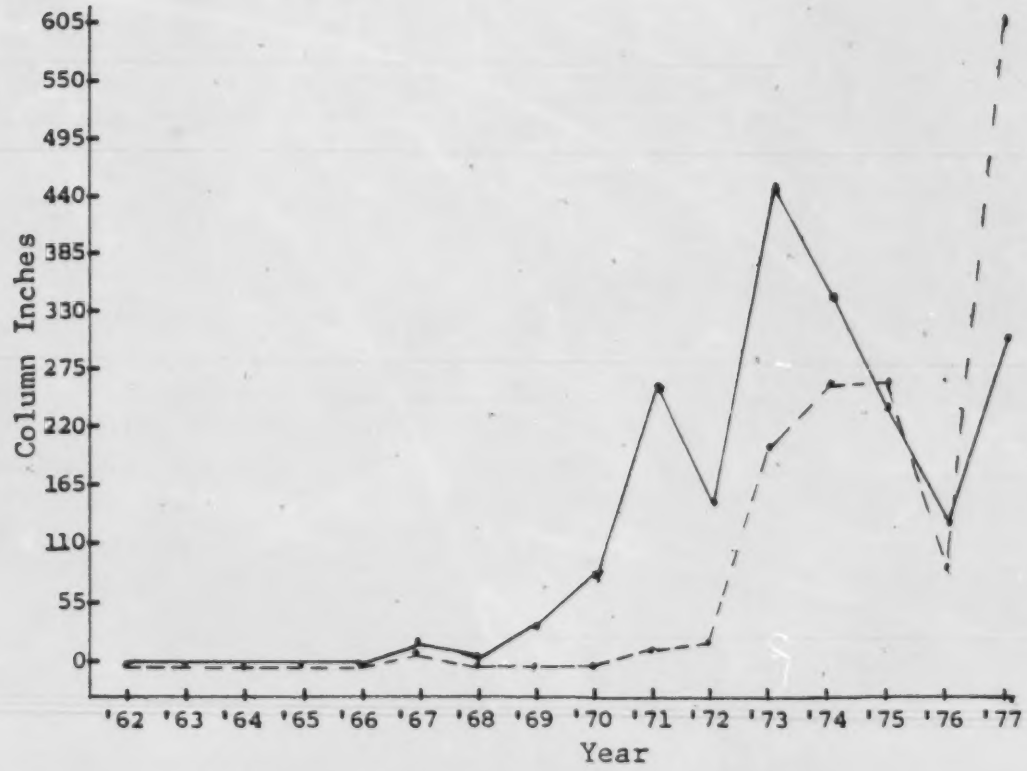

Figure 5.--Yearly total of column inches on energy for the Chicago Tribune --------
New York Times ————

The number of stories and column inches for 1962-1969 and 1970-1977 devoted to the energy problem that would have required an EIS increased after 1970 as given in Tables 18 and 19.

TABLE 18

STORIES ON ENERGY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	4 5.0%	13 16.5%	17 21.5%	0 0	12 14.0%	12 19.0%
No	1 1.3%	61 77.2%	62 78.5%	1 1.6%	50 79.4%	51 81.0%
Total	5 6.3%	74 93.7%	79 100.0%	1 1.6%	62 98.4%	63 100.0%

TABLE 19

COLUMN INCHES ON ENERGY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	61 3.0%	283 14.1%	344 17.1%	0 0	424 28.5%	424 28.5%
No	4 0.2%	1660 82.7%	1664 82.9%	15 1.0%	1046 70.5%	1061 71.5%
Total	65 3.2%	1943 96.8%	2008 100.0%	15 1.0%	1470 99.0%	1485 100.0%

The number of stories and column inches for 1962-1969 and 1970-1977 which mentioned side-effects of the energy problem were substantial after the problem was recognized, indicated in Tables 20 and 21.

TABLE 20

STORIES ON ENERGY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	0 0	30 38.0%	30 38.0%	1 1.6%	17 27.0%	18 28.6%
No	5 6.3%	44 55.7%	49 62.0%	0 0	45 71.4%	45 71.4%
Total	5 6.3%	74 93.7%	79 100.0%	1 1.6%	62 98.4%	63 100.0%

TABLE 21

COLUMN INCHES ON ENERGY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	0 0	1104 55.0%	1104 55.0%	15 1.0%	700 47.2%	715 48.2%
No	65 3.2%	839 41.8%	904 45.0%	0 0	770 51.8%	770 51.8%
Total	65 3.2%	1943 96.8%	2008 100.0%	15 1.0%	1470 99.0%	1485 100.0%

Energy Resources: Discussion

Coverage of the energy problem has the most well-defined trend (Figures 4 and 5). There was little or no coverage until about 1971. It then increased a bit until 1973 when it went up to more than twice the number of stories as in 1972. This was due to the Arab oil embargo of 1973. The coverage increased a bit on the Tribune until 1976 (an election year) when it dropped. A story on November 1, 1976 in the Tribune offered an explanation for the drop in interest in energy: energy went from a redhot issue to no issue in the election year for three reasons: politicians decided the issue was too complicated to discuss with voters; consumers lost interest since energy was plentiful, although more expensive; and President Ford had signed the oil price control phaseout. The interest in energy shot up in 1977 after President Carter started to push for an energy policy.

Energy also seems to be an area in which NEPA has somewhat of an effect since construction of power plants requiring EIS's is part of the energy issue. Six stories (8.1 percent) on energy in the Times mentioned EIS's while one story (1.6 percent) on energy in the Tribune mentioned an EIS (about the Alaskan pipeline). These figures do not seem to indicate that NEPA directly increased coverage of energy problems significantly.

Energy had a higher proportion of stories which dealt with topics that would require an EIS than most other categories (Tables 18 and 19). But the very nature of the energy problem seems to explain this as opposed to any effect of NEPA. That is, part of the energy problem is the need for energy which can be solved by construction of power plants. A story on this problem is inevitable in coverage of energy. This topic would also require an EIS, so the greater proportion of energy stories on topics needing an EIS can be explained without the need for NEPA.

Yet, since the energy problem has become more pronounced since the oil embargo, there has been a substantial proportion of the energy coverage which deals with the side-effects of the problem (Tables 20 and 21).

Water Quality

Results

The coverage of water quality from 1962-1977 for the Chicago Tribune and New York Times is shown graphically in Figures 6 and 7. The figures show the number of stories and column inches in the 24 samples issues each year. The coverage tended to peak in 1970.

There were no stories on water quality which mentioned NEPA, EIS or CEQ, as shown in Tables 22 and 23 for the Times and Tribune.

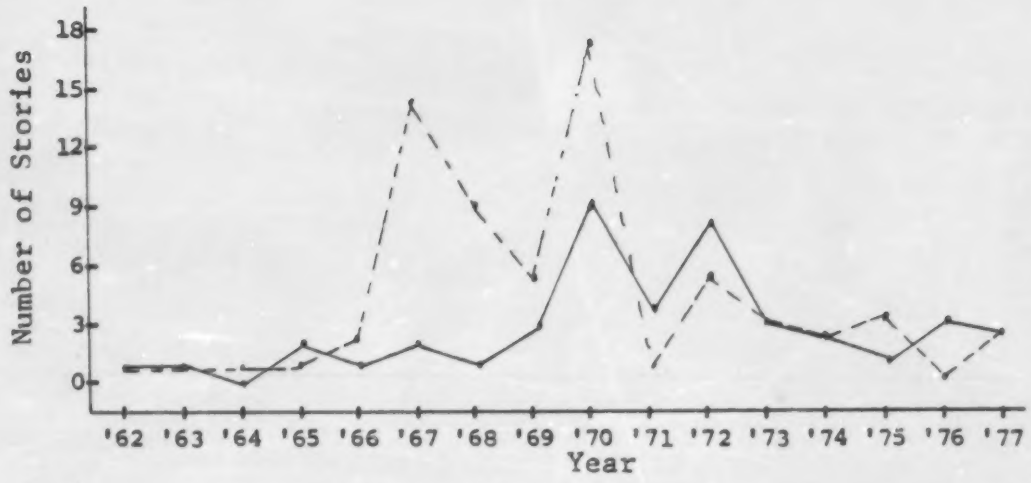

Figure 6.--Yearly number of stories on water quality for the Chicago Tribune --------
New York Times ————

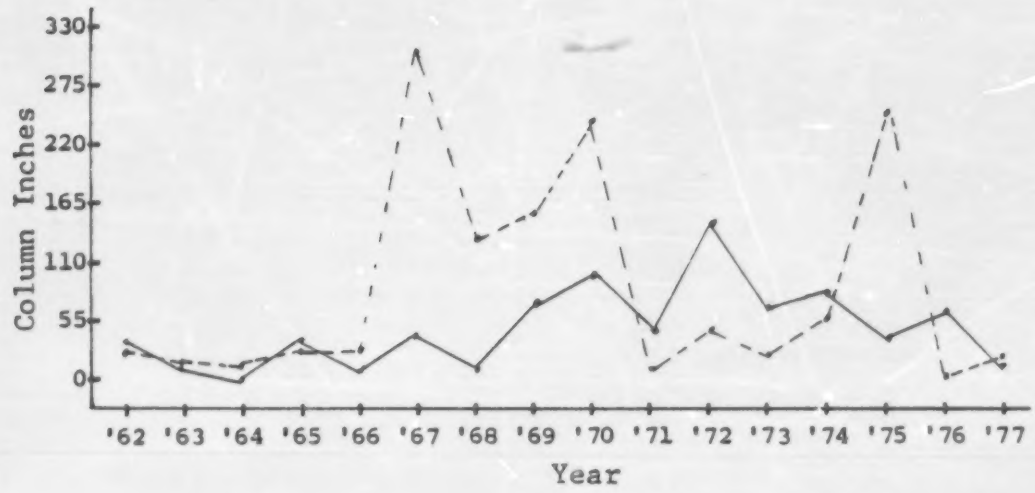

Figure 7.--Yearly total of column inches on water quality for the Chicago Tribune -------
New York Times ————

TABLE 22

STORIES ON WATER QUALITY MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	0	0	0	0
No	32	100	33	100
Total	32	100	33	100

TABLE 23

COLUMN INCHES ON WATER QUALITY MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In.	Percent	Col. In.	Percent
Yes	0	0	0	0
No	568	100	631	100
Total	568	100	631	100

The number of stories and column inches for 1962-1969 and 1970-1977 devoted to topics on water quality that would have required an EIS was small, as revealed in Tables 24 and 25.

TABLE 24

STORIES ON WATER QUALITY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	0 0	3 7.0%	3 7.0%	1 1.5%	4 6.0%	5 7.5%
No	11 25.6%	29 67.4%	40 93.0%	33 49.2%	29 43.3%	62 92.5%
Total	11 25.6%	32 74.4%	43 100.0%	34 50.7%	33 49.3%	67 100.0%

TABLE 25

COLUMN INCHES ON WATER QUALITY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	0 0	62 8.1%	62 8.1%	26 2.0%	53 4.0%	79 6.0%
No	197 25.8%	506 66.1%	703 91.9%	656 50.0%	578 44.0%	1234 94.0%
Total	197 25.8%	568 74.2%	765 100.0%	682 52.0%	631 48.0%	1313 100.0%

The number of stories and column inches for 1962-1969 and 1970-1977 which mentioned side-effects of water quality problems was substantial (Tables 26 and 27), particularly the column inches or space devoted to side-effects.

TABLE 26

STORIES ON WATER QUALITY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	3 7.0%	12 27.9%	15 34.9%	9 13.5%	8 11.9%	17 25.4%
No	8 18.6%	20 46.5%	28 65.1%	25 37.3%	25 37.3%	50 74.6%
Total	11 25.6%	32 74.4%	43 100.0%	34 50.8%	33 49.2%	67 100.0%

TABLE 27

COLUMN INCHES ON WATER QUALITY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	102 13.3%	343 44.9%	445 58.2%	324 24.7%	376 28.7%	700 53.4%
No	95 12.4%	225 29.4%	320 41.8%	358 27.2%	255 19.4%	613 46.6%
Total	197 25.7%	568 74.3%	765 100.0%	682 51.9%	631 48.1%	1313 100.0%

Water Quality: Discussion

The trend of coverage of water quality is generally lower until the later 1960's, more so for the New York Times than the Chicago Tribune (Figures 6 and 7). In 1967 the Tribune had a high point of water quality coverage. This was due to a series throughout most of the year called "save our lake." The Tribune did not maintain this level after that series of articles. Another high point in the Tribune came in 1975, which may be attributed to a special series on asbestos in the water supply of a Minnesota town.

Basically, the coverage of water quality peaked in 1970 and declined thereafter but tended to stay above the levels of pre-1970.

There were no stories (Table 22) on water quality that mentioned NEPA or EIS for either newspaper. So it seems no direct effect of NEPA toward increasing environmental coverage is shown in coverage of water quality.

Also, the proportion and number of stories on water quality before and after 1970 which dealt with topics which would have required an EIS is very small (Tables 24 and 25). NEPA does not seem to have led to greater coverage of topics fitting the definition for projects requiring an EIS.

At the same time, side-effects of water quality concerns received a substantial amount of coverage; over

half of the total number of column inches devoted to water quality after 1970. So it seems there is a general awareness of the side-effects of water quality problems, more so after 1970.

Air Quality

Results

The coverage of air quality from 1962-1977 is shown graphically in Figures 8 and 9, for the New York Times and Chicago Tribune. Figure 8 shows the number of stories for the 24 sampled issues each year. Figure 9 shows the total number of column inches in the 24 sampled issues devoted to air quality. Coverage peaked in 1970. There were no stories on air quality which had NEPA, EIS or CEQ mentioned, shown in Tables 28 and 29 for the Tribune and Times.

TABLE 28

STORIES ON AIR QUALITY MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	0	0	0	0
No	52	100	64	100
Total	52	100	64	100

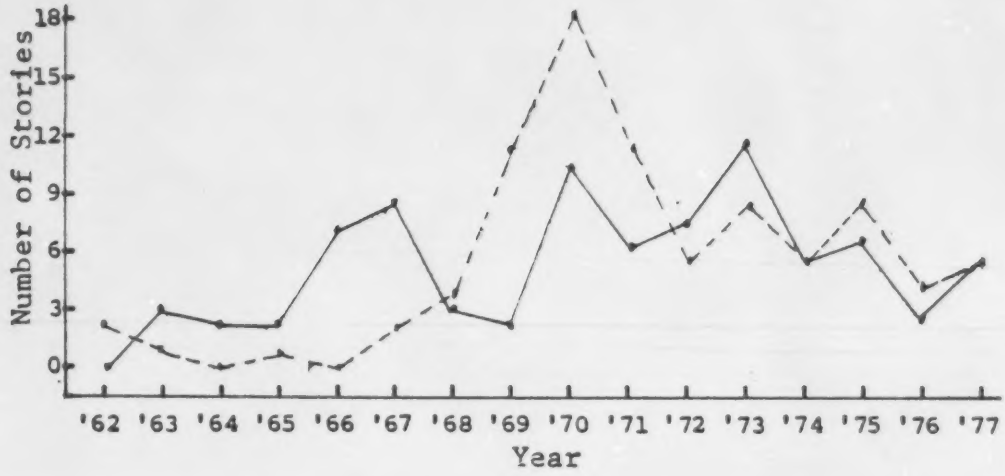

Figure 8.-- Yearly number of stories on air quality for the Chicago Tribune ------
New York Times ———

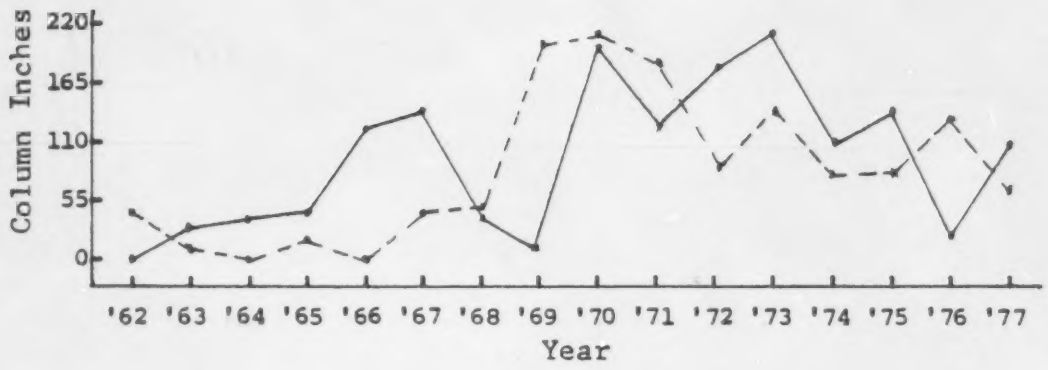

Figure 9.--Yearly total of column inches on air quality for the Chicago Tribune -------
New York Times ———

TABLE 29

COLUMN INCHES ON AIR QUALITY MENTIONING NEPA
1970-1977

NEPA Mentioned	Times Col. In.	Times Percent	Tribune Col. In.	Tribune Percent
Yes	0	0	0	0
No	1022	100	910	100
Total	1022	100	910	100

The number of stories and column inches on air quality for 1962-1969 and 1970-1977 devoted to topics that would have required an EIS are small, shown in Tables 30 and 31.

TABLE 30

STORIES ON AIR QUALITY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	0 0	1 1.3%	1 1.3%	1 1.2%	0 0	1 1.2%
No	27 34.1%	51 64.5¢	78 98.7%	20 23.5%	64 75.3%	84 98.8%
Total	27 34.1%	52 65.9%	79 100.0%	21 24.7%	64 75.3%	85 100.0%

TABLE 31

COLUMN INCHES ON AIR QUALITY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	0 0	21 1.5%	21 1.5%	18 1.4%	0 0	18 1.4%
No	368 26.5%	1001 72.0%	1369 98.5%	331 26.3%	910 72.3%	1241 98.6%
Total	368 26.5%	1022 73.5%	1390 100.0%	349 27.7%	910 72.3%	1259 100.0%

The number of stories and column inches for 1962-1969 and 1970-1977 which mentioned side-effects of the environmental problem of air quality are not as great as water quality, but still substantial, shown in Tables 32 and 33.

TABLE 32

STORIES ON AIR QUALITY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	6 7.6%	16 20.2%	22 27.8%	7 8.2%	11 13.0%	18 21.2%
No	21 26.6%	36 45.6%	57 72.2%	14 16.5%	53 62.3%	67 78.8%
Total	27 34.2%	52 65.8%	79 100.0%	21 24.7%	64 75.7%	85 100.0%

TABLE 33

COLUMN INCHES ON AIR QUALITY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	104 7.5%	383 27.5%	487 35.0%	194 15.4%	247 19.6%	441 35.0%
No	264 19.0%	639 46.0%	903 65.0%	155 12.3%	663 52.7%	818 65.0%
Total	368 26.5%	1022 73.5%	1390 100.0%	349 27.7%	910 72.3%	1259 100.0%

Air Quality: Discussion

The general trend in the quantity of coverage of air quality seems to be lower levels until 1970 when it increases in both newspapers. The coverage decreases after 1970 but with no clearcut trend; it tends to fluctuate up and down, generally at a higher level than before 1970. The differences in the trends of the two newspapers (Figures 8 and 9) can be attributed to no specific cause; rather the differences reflect the different types of air quality problems in each newspaper's area.

The stories tended to be about violations of air pollution laws, hazards of air pollution or reports on the levels of smog in the city. There were no stories (Table 28) on air quality that mentioned NEPA for either newspaper.

Thus, if NEPA had any effect on coverage of the environment, it was not shown in the coverage of air quality through any direct reference to NEPA.

In addition, the proportion of stories on air quality before and after 1970 which dealt with topics which would have required an EIS is small (Tables 30 and 31). This reinforces the idea that for air quality, NEPA had no discernible effect on the increased coverage around 1970.

There was an increase in the absolute quantity of coverage of air quality after 1970 that mentioned the side-effects of a problem (Tables 32 and 33) in addition to a proportional increase. This indicates an increased awareness of more of the consequences of air pollution. This supports the view that there was a greater understanding of environmental problems when the new environmentalism began in the late 1960's and early 1970's (O'Riordan and Hey, 1976).

Environmental Additives

Results

The coverage of environmental additives in the New York Times and Chicago Tribune from 1962-1977, given in number of stories and column inches, is shown in Figures 10 and 11. There was a higher point for the Times in 1963.

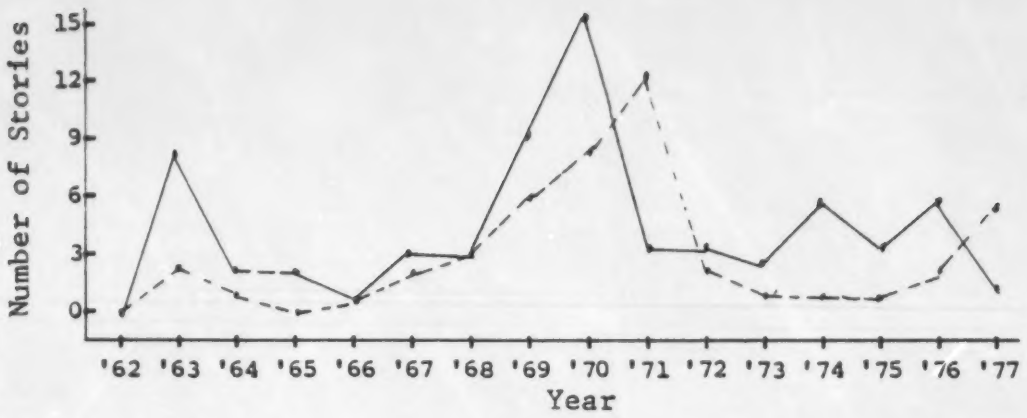

Figure 10.--Yearly number of stories on environmental additives for the Chicago Tribune --------
New York Times ————

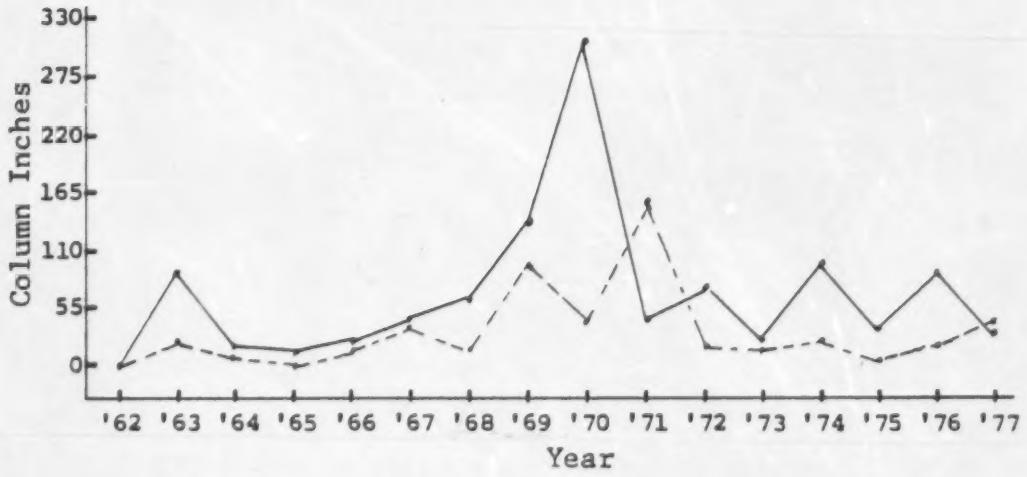

Figure 11.--Yearly total of column inches on environmental additives for the Chicago Tribune -------
New York Times ————

The number of stories and column inches of coverage of environmental additives which mention NEPA, EIS or CEQ are again small, shown in Tables 34 and 35.

TABLE 34

STORIES ON ENVIRONMENTAL ADDITIVES MENTIONING NEPA 1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	1	2.7	0	0
No	36	97.3	32	100
Total	37	100.0	32	100

TABLE 35

COLUMN INCHES ON ENVIRONMENTAL ADDITIVES MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In.	Percent	Col. In.	Percent
Yes	12	1.7	0	0
No	676	98.3	308	100
Total	688	100.0	308	100

The number of stories and column inches for 1962-1969 and 1970-1977 devoted to the problem of some environmental additives that would have required an EIS are insubstantial, revealed in Tables 36 and 37.

TABLE 36

STORIES ON ENVIRONMENTAL ADDITIVES THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	1 1.5%	3 4.6%	4 6.1%	3 6.4%	5 10.6%	8 17.0%
No	27 41.5%	34 52.4%	61 93.9%	12 25.5%	27 57.5%	39 83.0%
Total	28 43.0%	37 57.0%	65 100.0%	15 31.9%	32 68.1%	47 100.0%

TABLE 37

COLUMN INCHES ON ENVIRONMENTAL ADDITIVES THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	12 1.1%	61 5.7%	73 6.8%	14 2.9%	84 17.2%	98 20.1%
No	364 34.2%	627 59.0%	991 93.2%	165 33.9%	224 46.0%	389 79.9%
Total	376 35.3%	688 64.7%	1064 100.0%	179 36.8%	308 63.2%	487 100.0%

The number of stories and column inches for 1962-1969 and 1970-1977 which mentioned side-effects of the issue

of environmental additives are greater and more impressive in the Times than the Tribune, as revealed in Tables 38 and 39.

TABLE 38

STORIES ON ENVIRONMENTAL ADDITIVES WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	13 20.0%	13 20.0%	26 40.0%	3 6.4%	7 14.9%	10 21.3%
No	15 23.1%	24 36.9%	39 60.0%	12 25.5%	25 53.2%	37 78.7%
Total	28 43.1%	37 56.9%	65 100.0%	15 31.9%	32 68.1%	47 100.0%

TABLE 39

COLUMN INCHES ON ENVIRONMENTAL ADDITIVES WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	237 22.3%	309 29.0%	546 51.3%	41 8.4%	72 14.8%	113 22.2%
No	139 13.1%	379 35.6%	518 48.7%	138 28.3%	236 48.5%	374 76.8%
Total	376 35.4%	688 64.6%	1064 100.0%	179 36.7%	308 63.3%	487 100.0%

Environmental Additives: Discussion

The trend in coverage of environmental additives is a steady increase until 1970 and a decline thereafter (Figures 10 and 11), for the New York Times. The coverage peaked in 1971 for the Chicago Tribune. The Times has a higher point in 1963 which is the apparent result of Silent Spring by Rachel Carson. Most of these 1963 stories dealt with her book and some of the changes it was causing. This supports the view that Silent Spring was a forerunner to the environmental movement that started in the late 1960's and early 1970's. The Tribune had no mention of Silent Spring in its sampled issues.

There was just one story between the Times and Tribune which mentioned NEPA (Table 34). It was on October 22, 1974 and was a story on a draft EIS that predicted oil spills would occur as a result of offshore oil drilling. This one reference to NEPA does not indicate that NEPA had any real effect on the coverage of environmental additives.

There does not seem to be a noteworthy difference in coverage of stories which would require an EIS before and after 1970 (Tables 36 and 37). The figures seem to be small. But there is a substantial awareness of side-effects of environmental additives (Tables 38 and 39).

Population Explosion

Results

The coverage of the population explosion, given in number of stories and column inches, for the New York Times and Chicago Tribune is shown graphically in Figures 12 and 13. The coverage was minimal at best.

There were no stories covering the population explosion which mentioned NEPA, EIS or CEQ are given in Tables 40 and 41.

TABLE 40

STORIES ON THE POPULATION EXPLOSION MENTIONING NEPA 1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	0	0	0	0
No	4	100	2	100
Total	4	100	2	100

TABLE 41

COLUMN INCHES ON THE POPULATION EXPLOSION MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In	Percent	Col. In.	Percent
Yes	0	0	0	0
No	116	100	20	100
Total	116	100	20	100

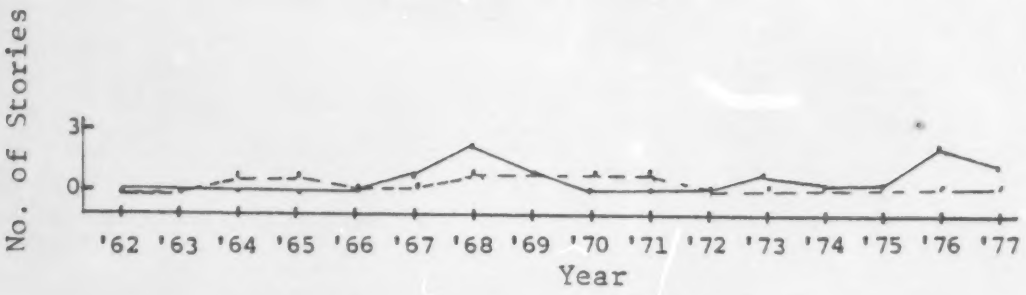

Figure 12.--Yearly number of stories on the population explosion for the Chicago Tribune --------
New York Times ————

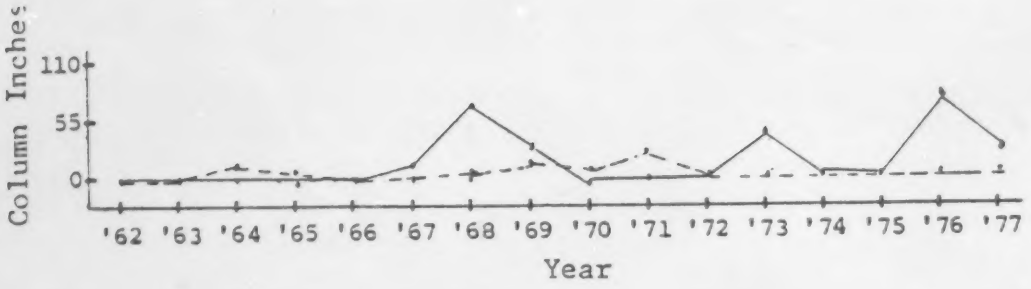

Figure 13.--Yearly total of column inches on the population explosion for the Chicago Tribune --------
New York Times ————

There were no stories or column inches for 1962-1969 and 1970-1977 devoted to topics on the population explosion that would have required an EIS, as given in Tables 42 and 43.

TABLE 42

STORIES ON THE POPULATION EXPLOSION THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	0 0	0 0	0 0	0 0	0 0	0 0
No	4 50.0%	4 50.0%	8 100%	4 66.6%	2 33.3%	6 100%
Total	4 50.0%	4 50.0%	8 100%	4 66.6%	2 33.3%	6 100%

TABLE 43

COLUMN INCHES ON THE POPULATION EXPLOSION THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	0 0	0 0	0 0	0 0	0 0	0 0
No	92 44.2%	116 55.8%	208 100%	35 63.6%	20 36.4%	55 100%
Total	92 44.2%	116 55.8%	208 100%	35 63.6%	20 36.4%	55 100%

Of the minimal number of stories and column inches for 1962-1969 and 1970-1977 on the population explosion which mentioned side-effects, most dealt with side-effects, shown in Tables 44 and 45.

TABLE 44

STORIES ON THE POPULATION EXPLOSION WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	3 37.5%	1 12.5%	4 50.0%	1 16.7%	1 16.6%	2 33.3%
No	1 12.5%	3 37.5%	4 50.0%	3 50.0%	1 16.7%	4 66.7%
Total	4 50.0%	4 50.0%	8 100.0%	4 66.7%	2 33.3%	6 100.0%

TABLE 45

COLUMN INCHES ON THE POPULATION EXPLOSION WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	81 39.0%	37 17.8%	118 56.8%	13 23.6%	15 27.3%	28 50.9%
No	11 5.2%	79 38.0%	90 43.2%	22 40.0%	5 9.1%	27 49.1%
Total	92 44.2%	116 55.8%	208 100.0%	35 63.6%	20 36.4%	55 100.0%

Population Explosion: Discussion

There are so few stories dealing with the population explosion that there is no trend (Figures 12 and 13). For a problem that Margaret Mead (1978) characterizes as one of the biggest facing the world, coverage of the population explosion is dismal.

NEPA had no relation to coverage of this problem (Tables 40 and 41). The little coverage of the population explosion that did occur did generally seem to note side-effects of the problem. The outstanding feature about the coverage of the population explosion is not its trend (nonexistent) or relation to NEPA (none) but rather the total lack of coverage. This problem apparently has not been perceived by the sampled newspapers (or perhaps the U.S.) as a problem worthy of attention . . . yet. It seems the population problem has not been an event which has captured attention; it tends to be a subtle problem.

Natural Amenities

Results

The coverage of the preservation of natural amenities in the New York Times and Chicago Tribune from 1962-1977, given in number of stories and column inches, is shown in Figures 14 and 15. No clear trend is revealed.

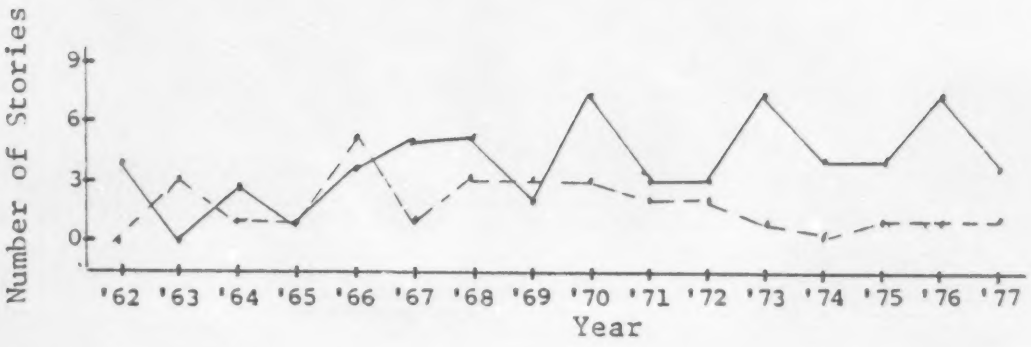

Figure 14.--Yearly number of stories on natural amenities for the Chicago Tribune --------
New York Times ————

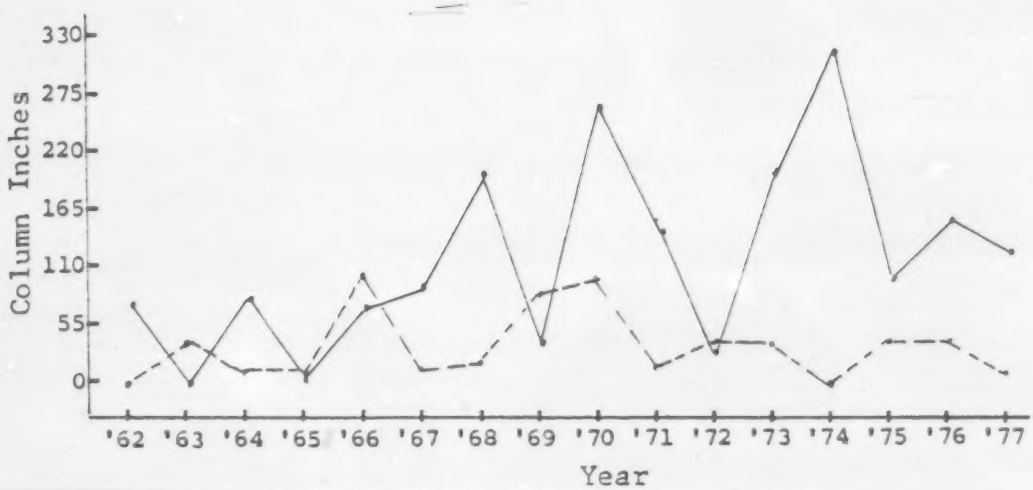

Figure 15.--Yearly total of column inches on natural amenities for the Chicago Tribune --------
New York Times ————

There were no stories on preserving natural amenities which mention NEPA, EIS or CEQ, as given in Tables 46 and 47.

TABLE 46

STORIES ON NATURAL AMENITIES MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	0	0	0	0
No	41	100	11	100
Total	41	100	11	100

TABLE 47

COLUMN INCHES ON NATURAL AMENITIES MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In.	Percent	Col. In.	Percent
Yes	0	0	0	0
No	1292	100	268	100
Total	1292	100	268	100

About one-fourth the number of stories and column inches for 1962-1969 and 1970-1977 devoted to the preservation of natural amenities would have required an EIS, shown in Tables 48 and 49.

TABLE 48

STORIES ON NATURAL AMENITIES THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	5 7.7%	9 13.9%	14 21.6%	4 14.4%	2 7.1%	6 21.5%
No	19 29.2%	32 49.2%	51 78.4%	13 46.4%	9 32.1%	22 78.5%
Total	24 36.9%	41 63.1%	65 100.0%	17 60.8%	11 39.2%	28 100.0%

TABLE 49

COLUMN INCHES ON NATURAL AMENITIES THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	129 7.0%	347 18.9%	476 25.9%	75 13.6%	91 16.5%	166 30.1%
No	417 22.7%	945 51.4%	1362 74.1%	208 37.8%	177 32.1%	385 69.9%
Total	546 29.7%	1292 70.3%	1838 100.0%	283 51.4%	268 48.6%	551 100.0%

The number of stories and column inches for 1962-1969 and 1970-1977 which mentioned side-effects of preserving

natural amenities are given in Tables 50 and 51. The percentage of column inches mentioning side-effects is particularly high.

TABLE 50

STORIES ON NATURAL AMENITIES WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	11 16.9%	31 47.7%	42 64.6%	3 10.7%	7 25.0%	10 35.7%
No	13 20.0%	10 15.4%	23 35.4%	14 50.0%	4 14.3%	18 64.3%
Total	24 36.9%	41 63.1%	65 100.0%	17 60.7%	11 39.3%	28 100.0%

TABLE 51

COLUMN INCHES ON NATURAL AMENITIES WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	335 18.2%	1198 65.2%	1533 76.7%	128 23.2%	214 38.9%	342 62.1%
No	211 11.5%	94 5.1%	305 23.3%	155 28.1%	54 9.8%	209 37.9%
Total	546 29.7%	1292 70.3%	1838 100.0%	283 51.3%	268 48.7%	551 100.0%

Natural Amenities: Discussion

There is no apparent trend in the coverage of preserving natural amenities (Figures 14 and 15). The Times had more coverage of this problem than the Tribune possibly due to different areas of news coverage or differences in staff available to cover this type of story. Most of the Times' coverage came after 1970 while the Tribune had a fairly even distribution in coverage before and after 1970.

There were no stories for either paper that referred to NEPA (Table 46) so this seems to be another area where NEPA plays little role in the amount of newspaper coverage. About one-fourth of the stories dealt with topics that would have required an EIS (Tables 48 and 49). But the post-1970 period did not seem to have that much of a greater proportion of these stories, so NEPA does not explain this result. It is probably the nature of thc topics in this category that explain this result; that is, construction or projects planned that may destroy certain natural areas would require EIS's but these stories would occur with or without this requirement.

Well over half of the total column inches devoted to preservation of natural amenities (Tables 50 and 51) mention side-effects of the issue. This would be expected since most of the stories in this category involved the loss or potential

loss of a natural amenity which was enjoyed by someone. This conflict of someone wanting to save the area versus someone wanting to use it led to stories dealing with more than just the manifest intention of building a highway or cutting down a tree, for instance. These stories tended to consider what was being lost in order to allow the project to be completed.

General Category

Results

The coverage falling in the general category in the New York Times and Chicago Tribune from 1962-1977 surged in 1970, given in number of stories and column inches and is shown in Figures 16 and 17.

The number of stories and column inches of general coverage which mention NEPA, EIS or CEQ are given in Tables 52 and 53. Only one of the forty-four stories mentioned NEPA.

TABLE 52

STORIES IN THE GENERAL CATEGORY MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	0	0	1	3.4
No	15	100	28	96.6
Total	15	100	29	100.0

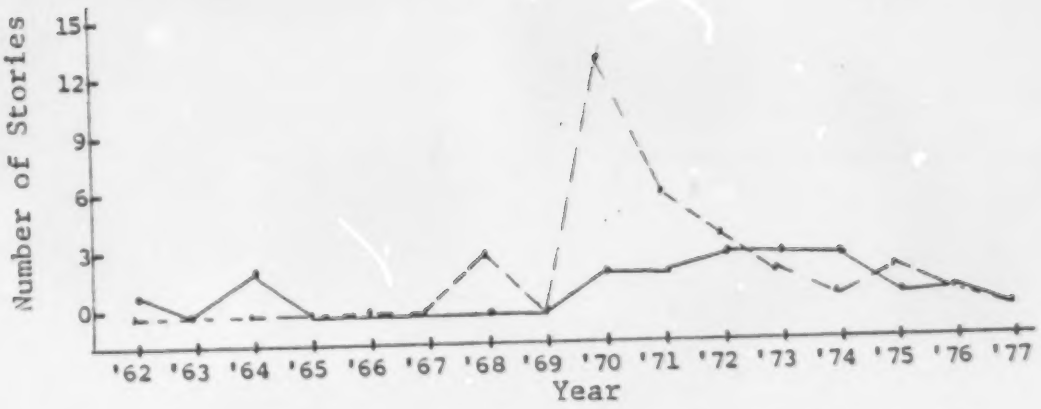

Figure 16.--Yearly number of stories in the general category for the Chicago Tribune --------
New York Times ————

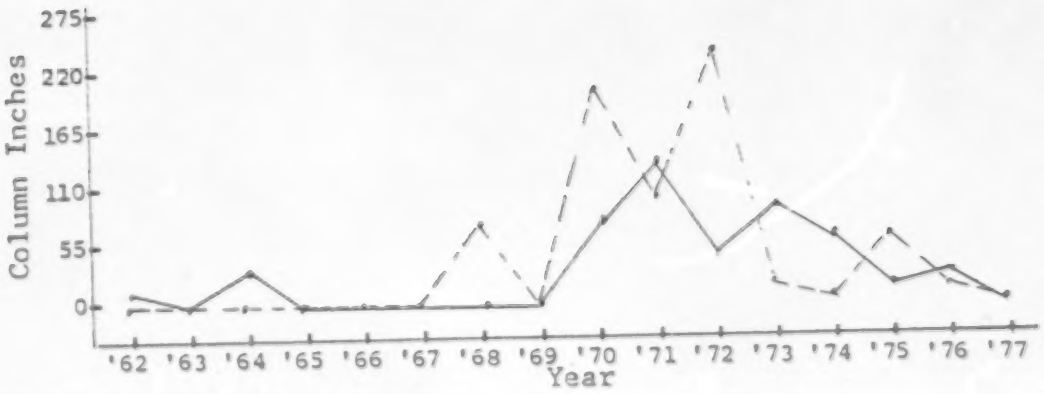

Figure 17.--Yearly total of column inches in the general category for the Chicago Tribune --------
New York Times ————

TABLE 53

COLUMN INCHES IN THE GENERAL CATEGORY MENTIONING NEPA, 1970-1977

NEPA Mentioned	Times Col. In.	Times Percent	Tribune Col. In.	Tribune Percent
Yes	0	0	19	3.0
No	456	100	612	97.0
Total	456	100	631	100.0

The number of stories and column inches for 1962-1969 and 1970-1977 devoted to general coverage that would have required an EIS are given in Tables 54 and 55. The only stories that would have required an EIS came before 1970 and NEPA.

TABLE 54

STORIES IN THE GENERAL CATEGORY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (N. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	2 11.1%	0 0	2 11.1%	1 3.1%	0 0	1 3.1%
No	1 5.5%	15 83.4%	16 88.9%	2 26.3%	29 90.6%	31 96.9%
Total	3 16.6%	15 83.4%	18 100.0%	3 9.4%	29 90.6%	32 100.0%

TABLE 55

COLUMN INCHES IN THE GENERAL CATEGORY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	28 5.6%	0 0	28 5.6%	4 0.5%	0 0	4 0.5%
No	13 2.6%	456 91.8%	469 94.4%	64 9.2%	631 90.3%	695 99.5%
Total	41 8.2%	456 91.8%	497 100.0%	68 9.7%	631 90.3%	699 100.0%

The number of stories and column inches of general coverage for 1962-1969 and 1970-1977 which mentioned side-effects of the issue are given in Tables 56 and 57. A substantial percentage mentioned side-effects, especially in the Times.

TABLE 56

STORIES IN THE GENERAL CATEGORY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	1 5.5%	10 55.6%	11 61.1%	1 3.1%	5 15.6%	6 18.7%
No	2 11.1%	5 27.8%	7 38.9%	2 6.3%	24 75.0%	26 81.3%
Total	3 16.6%	15 83.4%	18 100.0%	3 9.4%	29 90.6%	32 100.0%

TABLE 57

COLUMN INCHES IN THE GENERAL CATEGORY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	15 3.0%	348 70.0%	363 73.0%	4 0.6%	301 43.1%	305 43.7%
No	26 5.2%	108 21.8%	134 27.0%	64 9.1%	330 47.2%	394 56.3%
Total	41 8.2%	456 91.8%	497 100.0%	68 9.7%	631 90.3%	699 100.0%

General Category: Discussion

Stories did not really start to fall in the general category (dealing with two or more other problem areas) until the late 1960's and early 1970's (Figures 16 and 17). This seems to support the idea that there was a heightened environmental awareness around this time. Possibly the interrelationship of different problem areas became more apparent around 1970 and led to the coverage in the general category.

The only story in either newspaper (Tables 52 and 53) which mentioned NEPA was in the Chicago Tribune on August 7, 1971. It was about a report from the CEQ on how much money it would cost to clean up the environment. Yet

NEPA does not seem to have had much effect here either, in increasing coverage. In addition, the number of stories on topics which would have required an EIS are again small and unsubstantial (Tables 54 and 55).

It seems that when more than one problem area received coverage in the same story, side-effects tend to be often noted (Tables 56 and 57). This may indicate that when the interrelationship of problems is noted, there tends to be a greater awareness of possible side-effects.

Miscellaneous Category

Results

The coverage of the miscellaneous category in the New York Times and Chicago Tribune from 1962-1977, given in number of stories and column inches, is shown in Figures 18 and 19. The coverage really started to rise around 1970.

The number of stories and column inches of coverage of the miscellaneous category which mention NEPA, EIS or CEQ are given in Tables 58 and 59. Most stories mentioning NEPA fall in this category.

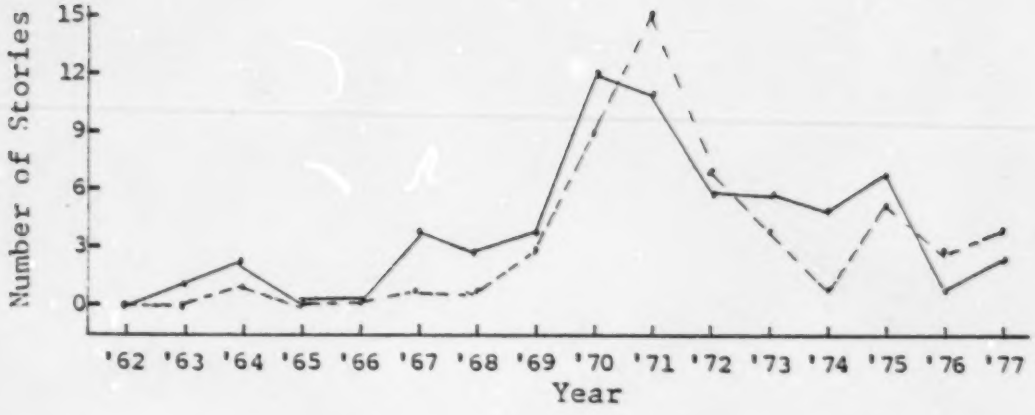

Figure 18.--Yearly number of stories in the miscellaneous category for the Chicago Tribune --------
New York Times ————

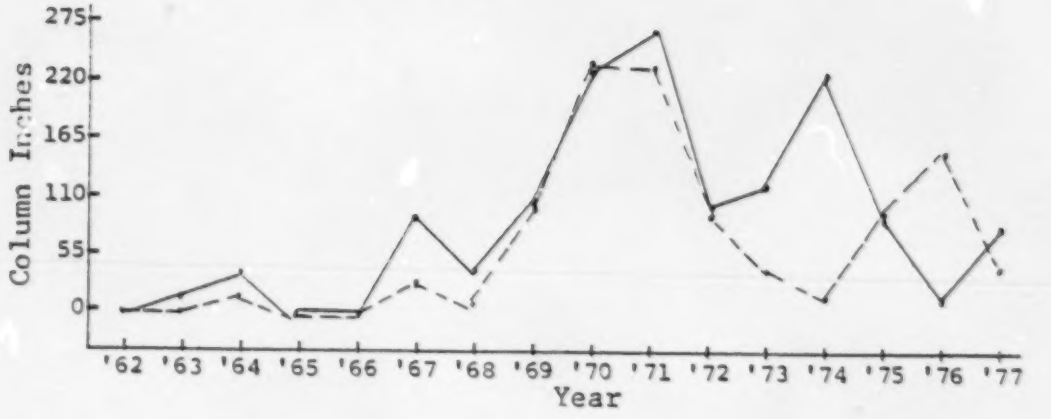

Figure 19.--Yearly total of column inches in the miscellaneous category for the Chicago Tribune --------
New York Times ————

TABLE 58

STORIES IN THE MISCELLANEOUS CATEGORY MENTIONING NEPA
1970-1977

NEPA Mentioned	Times		Tribune	
	No.	Percent	No.	Percent
Yes	9	17.6	2	4.2
No	42	82.4	46	95.8
Total		100.0	48	100.0

TABLE 59

COLUMN INCHES IN THE MISCELLANEOUS CATEGORY MENTIONING
NEPA, 1970-1977

NEPA Mentioned	Times		Tribune	
	Col. In.	Percent	Col. In.	Percent
Yes	219	18.9	30	3.3
No	937	81.1	876	96.7
Total	1156	100.0	906	100.0

The number of stories and column inches for 1962-1969 and 1970-1977 falling into the miscellaneous category that would require an EIS are small, shown in Tables 60 and 61.

TABLE 60

STORIES IN THE MISCELLANEOUS CATEGORY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	3 4.6%	7 10.8%	10 15.4%	2 3.7%	4 7.4%	6 11.1%
No	11 16.9%	44 67.7%	55 84.6%	4 7.4%	44 81.5%	48 88.9%
Total	14 21.5%	51 78.5%	65 100.0%	6 11.1%	48 88.9%	54 100.0%

TABLE 61

COLUMN INCHES IN THE MISCELLANEOUS CATEGORY THAT WOULD HAVE REQUIRED AN EIS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In.%)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	75 5.2%	160 11.1%	235 16.3%	38 3.6%	74 7.0%	112 10.6%
No	208 14.5%	996 69.2%	1204 83.7%	109 10.4%	832 79.0%	941 89.4%
Total	283 19.7%	1156 80.3%	1439 100.0%	147 14.0%	906 86.0%	1053 100.0%

The number of stories and column inches in the miscellaneous category for 1962-1969 and 1970-1977 which mentioned side-effects of the problem are given in Tables 62

and 63. These percentages are substantial and there is a higher percentage of space devoted to side-effects than the percentage of stories.

TABLE 62

STORIES IN THE MISCELLANEOUS CATEGORY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)	1962-1969 (No. %)	1970-1977 (No. %)	Total (No. %)
Yes	6 9.2%	14 21.5%	20 30.7%	2 3.7%	15 27.8%	17 31.5%
No	8 12.3%	37 57.0%	45 69.3%	4 7.4%	33 61.1%	37 68.5%
Total	14 21.5%	51 78.5%	65 100.0%	6 10.1%	48 88.9%	54 100.0%

TABLE 63

COLUMN INCHES IN THE MISCELLANEOUS CATEGORY WHICH MENTIONED SIDE-EFFECTS

	Times			Tribune		
	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)	1962-1969 (In. %)	1970-1977 (In. %)	Total (In. %)
Yes	115 8.0%	505 35.1%	620 43.1%	101 9.6%	486 46.1%	587 55.7%
No	168 11.7%	651 45.2%	819 56.9%	46 4.4%	420 39.9%	466 44.3%
Total	283 19.7%	1156 80.3%	1439 100.0%	147 14.0%	906 86.0%	699 100.0%

Miscellaneous Category: Discussion

Coverage in the miscellaneous category increased most in the late 1960's and early 1970's (Figures 18 and 19). The types of stories leading to this increase included: noise pollution, Earth Day activities, group and individual efforts to dramatize environmental problems and efforts to fight pollution. This increase supports the view that environmental awareness increased at this time. More types of problems were perceived as environmental problems at this time, it seems so more coverage was accorded them.

Most of the stories that mentioned NEPA fell into this category (Tables 58 and 59). This indicates NEPA may have contributed most to providing information about problems that were not perceived as environmental until this time. Yet it seems NEPA is still more of a result of the environmental movement rather than a cause since NEPA was still rarely mentioned in this category.

The figures on stories on topics requiring an EIS (Tables 60 and 61) don't seem particularly substantial. Yet, the miscellaneous stories that appeared after 1969 did seem to point out side-effects of the problem (Tables 62 and 63). It seems new areas appeared as environmental issues around 1970 to bring a broader awareness of the environment.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Summary

The purpose of this study was to examine the trend in coverage of environmental problems in the Chicago Tribune and New York Times from 1962-1977. In addition, the effect of NEPA on environmental coverage was considered along with testing to determine whether increased coverage around 1970 and since has led to more attention to side-effects of environmental problems.

The objectives were:

1. To determine the quantity of coverage of environmental issues in two leading newspapers from 1962-1977.
2. To determine the quantity of newspaper coverage given to individual environmental problem areas.
3. To determine the effects, if any, of NEPA on newspaper coverage of the environment.
4. To determine how much coverage of side-effects of environmental issues has occurred since 1962.

The specific hypotheses to be tested were:

1. There was an upward trend in the number of stories and column inches devoted to environmental issues for the period 1962-1977.
2. A substantial number of stories and column inches mentioned NEPA, EIS, or CEQ.
3. Proportionately more stories and column inches were devoted to topics which fit NEPA's requirement for an EIS after 1970 than before.
4. Proportionately more stories and column inches mentioned side-effects of environmental issues after 1970 than before.

The first hypothesis was supported with a definite upward trend from 1962-1970 and a mostly downward trend from 1970-1977, although the levels after 1970 stayed above the levels before 1970.

The second hypothesis was rejected since only 20 stories out of 567 stories in both newspapers mentioned NEPA.

The third hypothesis was also rejected because the proportions were not significantly different.

The fourth hypothesis was generally supported for the column inches devoted to environmental issues. The proportion of the number of stories mentioning side-effects did not significantly increase after 1970.

Data were gathered by analyzing the content of the Chicago Tribune and New York Times, two leading newspapers. Environmental stories from 24 selected issues per year were coded into one of eight categories. These stories were further coded yes or no in response to three questions: 1) Would an EIS have been required for the story? 2) Was NEPA, EIS or CEQ mentioned in the story? 3) Were side-effects of the environmental problem mentioned in the story?

The following statistical analyses were performed on the data with the consultation of the Statistics Laboratory and the use of the computer program SAS:

1. Spearman Rank Correlation Coefficients were obtained to determine the trend of environmental coverage.
2. Chi-square tests were run to test for significant differences in the proportion of stories which would have required an EIS for 1962-1969 and 1970-1977. This test was also used to determine whether there were significant differences in the proportion of stories mentioning side-effects of environmental problems, before and after 1969-1970.
3. General statistics to describe the data were also obtained, including mean, variance and standard error.

Conclusions

There was an upward trend in the quantity of environmental problems in the sampled newspapers from 1962-1977.

The peak year was 1970 and coverage tended to decline after the peak but remained above pre-1970 levels. Coverage of the environment also tended to decrease in the presidential election years after 1970.

NEPA did not seem to have any substantial effect on environmental coverage. NEPA may have been more a result of the environmental movement than a cause. The awareness of side-effects tended to increase with the start of the new environmentalism around 1969-1970.

NEPA did not seem to have any effect on any of the individual categories. Side-effects were mentioned in a substantial proportion of stories in each category. The population explosion category received virtually no coverage. The energy category also received little coverage until it became a pressing problem in 1973 with the Arab oil embargo. The general and miscellaneous categories had their biggest increases after 1969, possibly due to a wider understanding of problems that could be considered environmental.

The data supported the view that there was a boom in interest in environmentalism in the late 1960's and early 1970's. The data also indicated that Silent Spring led to an increase in coverage of environmental additives, at least in the New York Times in 1963.

It seems that legislation-setting standards to protect the environment led to more environmental coverage

since they make excessive pollution a violation of a law which makes the pollution an event to be covered.

Implications

The political impact of environmental problems seems to lesson in presidential election years, although the political impact seems to have increased since 1970. Coverage of the environment went down in 1972 and 1976, indicating other political issues tend to override environmental concerns when the pressure of a presidential election approaches.

Also, some problems don't seem to attract newspapers' attention until they are near crisis levels. The perfect example is the energy problem; it only received wide attention when a crisis occurred--the 1973 oil embargo. It has maintained high attention levels since 1973 because there are still energy problems, although coverage dipped in the election year, 1976.

The population explosion has received little attention even though some consider it to be one of the greatest environmental problems. Perhaps when it reaches crisis levels in the U.S. and becomes an event it will be deemed a worthy topic to cover.

Coverage in other areas tended to focus on problems after they occurred, e.g., deterioration of the environment due to various pollutants. Few stories seemed to attack the problem before adverse effects had been recognized.

The effect of NEPA was much less than predicted. For those aware of NEPA, it has been seen as a great benefit to increased environmental awareness (Schoenfeld, Gilbert and others). But the mass media--newspapers--do not seem to have been touched by NEPA's effects. Legislation-setting standards for air quality, water quality and so on seem to have generated more coverage than NEPA.

Yet there does seem to be strength in the environmental movement. An awareness of side-effects of environmental issues has become more pronounced since 1969-1970. There is still need for improvement in the political strength of environmentalism since it seems to take a back seat in national election years by receiving less coverage than in non-election years.

Recommendations For Further Research

The following recommendations for further study of this subject are made:

1. No specific measures of the effect of legislation, such as the Clean Air Act of 1970 and others setting standards, were made to determine the effect of such bills on environmental coverage. The effect of the enforcement agency, the Environmental Protection Agency, was also not considered. A stuyd of these may indicate more direct causes for increased environmental coverage.

2. A characterization of environmental problems that seem to receive favorable political action could be made to provide a better understanding of what is needed to make environmental issues as politically as other issues.

3. This study did not consider what could be done to increase interest in a specific environmental problem area. A study of how to increase interest and awareness in a problem before it becomes a crisis could be undertaken.

APPENDIX I

THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, PUBLIC LAW 91-190, JANUARY 1, 1970 (42 U.S.C. 4321-4347) Section 102 (2)(C)

(C) Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on--

(i) The environmental impact of the proposed action,
(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,
(iii) Alternatives to the proposed action,
(iv) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes.

APPENDIX II

SELECTED DATES

1962			1963		
January	6[1,2]	Saturday	January	2[3]	Wednesday
	22	Monday		17[3]	Thursday
February	6	Tuesday	February	1[3]	Friday
	21	Wednesday		16[3]	Saturday
March	8	Thursday	March	4[3]	Monday
	23	Friday		19[3]	Tuesday
April	7	Saturday	April	3	Wednesday
	23	Monday		18	Thursday
May	8	Tuesday	May	3	Friday
	23	Wednesday		18	Saturday
June	7	Thursday	June	3	Monday
	22	Friday		18	Tuesday
July	7	Saturday	July	3	Wednesday
	23	Monday		18	Thursday
August	7	Tuesday	August	2	Friday
	22	Wednesday		17	Saturday
September	6	Thursday	September	2	Monday
	21	Friday		17	Tuesday
October	6	Saturday	October	2	Wednesday
	22	Monday		17	Thursday
November	6	Tuesday	November	1	Friday
	21	Wednesday		16	Saturday
December	6	Thursday	December	2	Monday
	21[3]	Friday		17	Tuesday

1964			1965		
January	4	Saturday	January	6	Wednesday
	20	Monday		21	Thursday
February	4	Tuesday	February	5	Friday
	19	Wednesday		20	Saturday
March	5	Thursday	March	8	Monday
	20	Friday		23	Tuesday
April	4	Saturday	April	7	Wednesday
	20	Monday		22	Thursday
May	5	Tuesday	May	7	Friday
	20	Wednesday		22	Saturday
June	4	Thursday	June	7	Monday
	14	Friday		22	Tuesday
July	4	Saturday	July	7	Wednesday
	20	Monday		22	Thursday
August	4	Tuesday	August	6	Friday
	19	Wednesday		21	Saturday

September	3	Thursday	September	6	Monday
	18	Friday		21	Tuesday
October	3	Saturday	October	6	Wednesday
	19	Monday		21	Thursday
November	3	Tuesday	November	5	Friday
	18	Wednesday		20	Saturday
December	3	Thursday	December	6	Monday
	18	Friday		21	Tuesday

1966			1967		
January	7	Friday	January	3	Tuesday
	22	Saturday		18	Wednesday
February	7	Monday	February	2	Thursday
	22	Tuesday		17	Friday
March	9	Wednesday	March	4	Saturday
	24	Thursday		20	Monday
April	8	Friday	April	4	Tuesday
	23	Saturday		19	Wednesday
May	9	Monday	May	4	Thursday
	24	Tuesday		19	Friday
June	8	Wednesday	June	3	Saturday
	23	Thursday		19	Monday
July	8	Friday	July	4	Tuesday
	23	Saturday		19	Wednesday
August	8	Monday	August	3	Thursday
	23	Tuesday		18	Friday
September	7	Wednesday	September	2	Saturday
	22	Thursday		18	Monday
October	7	Friday	October	3	Tuesday
	22	Saturday		18	Wednesday
November	7	Monday	November	2	Thursday
	22	Tuesday		17	Friday
December	7	Wednesday	December	2	Saturday
	22	Thursday		18	Monday

1968			1969		
January	4	Thursday	January	1	Wednesday
	19	Friday		16	Thursday
February	3	Saturday		31	Friday
	19	Monday	February	15	Saturday
March	5	Tuesday	March	3	Monday
	20	Wednesday		18	Tuesday
April	4	Thursday	April	2	Wednesday
	19	Friday		17	Thursday

May	4	Saturday	May	2	Friday
	20	Monday		17	Saturday
June	4	Tuesday	June	2	Monday
	19	Wednesday		17	Tuesday
July	4	Thursday	July	2	Wednesday
	19	Friday		17	Thursday
August	3	Saturday	August	1	Friday
	19	Monday		16	Saturday
September	3	Tuesday	September	1	Monday
	18	Wednesday		16	Tuesday
October	3	Thursday	October	1	Wednesday
	18	Friday		16	Thursday
November	2	Saturday		31	Friday
	18	Monday	November	15	Saturday
December	3	Tuesday	December	1	Monday
	18	Wednesday		16	Tuesday

1970			1971		
January	6	Tuesday	January	7	Thursday
	21	Wednesday		22	Friday
February	5	Thursday	February	6	Saturday
	20	Friday		22	Monday
March	7	Saturday	March	9	Tuesday
	23	Monday		24	Wednesday
April	7	Tuesday	April	8	Thursday
	22	Wednesday		23	Friday
May	7	Thursday	May	8	Saturday
	22	Friday		24	Monday
June	6	Saturday	June	8	Tuesday
	22	Monday		23	Wednesday
July	7	Tuesday	July	8	Thursday
	22	Wednesday		23	Friday
August	6	Thursday	August	7	Saturday
	21	Friday		23	Monday
September	5	Saturday	September	7	Tuesday
	21	Monday		22	Wednesday
October	6	Tuesday	October	7	Thursday
	21	Wednesday		22	Friday
November	5	Thursday	November	6	Saturday
	20	Friday		22	Monday
December	5	Saturday	December	7	Tuesday
	21	Monday		22	Wednesday

1972		
January	8[5]	Saturday
	17	Monday
February	1	Tuesday
	16	Wednesday
March	2	Thursday
	17	Friday
April	1	Saturday
	17	Monday
May	2	Tuesday
	17	Wednesday
June	1	Thursday
	16	Friday
July	1	Saturday
	17	Monday
August	1	Tuesday
	16	Wednesday
	31	Thursday
September	15	Friday
	30	Saturday
October	16	Monday
	31	Tuesday
November	15	Wednesday
	30	Thursday
December	15	Friday

1973		
January	1	Monday
	16	Tuesday
	31	Wednesday
February	15	Thursday
March	2	Friday
	17	Saturday
April	2	Monday
	17	Tuesday
May	2	Wednesday
	17	Thursday
June	1	Friday
	16	Saturday
July	2	Monday
	17	Tuesday
August	1	Wednesday
	16	Thursday
	31	Friday
September	15	Saturday
October	1	Monday
	16	Tuesday
	31	Wednesday
November	15	Thursday
	30	Friday
December	15	Saturday

1974		
January	7	Monday
	22	Tuesday
February	6	Wednesday
	21	Thursday
March	8	Friday
	23	Saturday
April	8	Monday
	23	Tuesday
May	8	Wednesday
	23	Thursday
June	7	Friday
	22	Saturday
July	8	Monday
	23	Tuesday
August	7	Wednesday
	22	Thursday

1975		
January	1	Wednesday
	16	Thursday
	31	Friday
February	15	Saturday
March	3	Monday
	18	Tuesday
April	2	Wednesday
	17	Thursday
May	2	Friday
	17	Saturday
June	2[6]	Monday
	17	Tuesday
July	2	Wednesday
	17	Thursday
August	1	Friday
	17	Saturday

September	6	Friday	September	1	Monday
	21	Saturday		16	Tuesday
October	7	Monday	October	1	Wednesday
	22	Tuesday		16	Thursday
November	6	Wednesday		31	Friday
	21	Thursday	November	15	Saturday
December	6	Friday	December	1	Monday
	21	Saturday		16	Tuesday

1976			1977		
January	2	Friday	January	3	Monday
	17	Saturday		18	Tuesday
February	2	Monday	February	2	Wednesday
	17	Tuesday		17	Thursday
March	3	Wednesday	March	4	Friday
	18	Thursday		19	Saturday
April	2	Friday	April	4	Monday
	17	Saturday		19	Tuesday
May	3	Monday	May	3	Wednesday
	18	Tuesday		18	Thursday
June	2	Wednesday	June	4	Friday
	17	Thursday		19	Saturday
July	2	Friday	July	4	Monday
	17	Saturday		19	Tuesday
August	2	Monday	August	3	Wednesday
	17	Tuesday		25[8]	Thursday
September	1	Wednesday	September	2	Friday
	16	Thursday		17	Saturday
October	1[7]	Friday	October	3	Monday
	16	Saturday		18	Tuesday
November	1	Monday	November	2	Wednesday
	16	Tuesday		17	Thursday
December	1	Wednesday	December	2	Friday
	16	Thursday		17	Saturday

1. The Late City Edition of the New York Times was used throughout the study except where noted.

2. For 1962-1966 the Three Star Final of the Chicago Tribune was analyzed since this was the edition available on microfilm. For 1967-1977 the Four Star Final for the Chicago Tribune was used. Also, until February 17, 1963 the Chicago Tribune was named the Chicago Daily Tribune. This was analyzed for 1962 through February 16, 1963 of the study.

3. The Late City Edition of the New York Times was not published on these dates due to a printers strike that caused the nine major New York newspapers to shut down. The Western Edition of the New York Times was microfilmed in its place. It contains the principal national and foreign news that would have been printed in the Late City Edition. The Western Edition was analyzed on these dates in the study.

4. The Late City Edition of the New York Times was not published on these dates due to a strike by the New York Newspaper Guild. The New York Times International Edition was microfilmed for these dates and used in the content analysis.

5. 1-1-72 was the date to be examined but the 1-1-72 microfilm of the Chicago Tribune was missing, so 1-8-72, the next available Saturday, was used instead, for the Chicago Tribune and also for the New York Times, to keep the samples consistent.

6. From this date throughout the rest of the dates used in the study, the Chicago Tribune used a 6-column format; a change from an 8-column format.

7. From this date throughout the rest of the dates used in the study, the New York Times used a 6-column format; a change from an 8-column format.

8. 8-18-77 was the date to be examined, but the 8-18-77 microfilm of the Chicago Tribune was missing so 8-25-77, the next available Thursday, was used instead for the Chicago Tribune and also the New York Times, to keep the samples consistent.

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